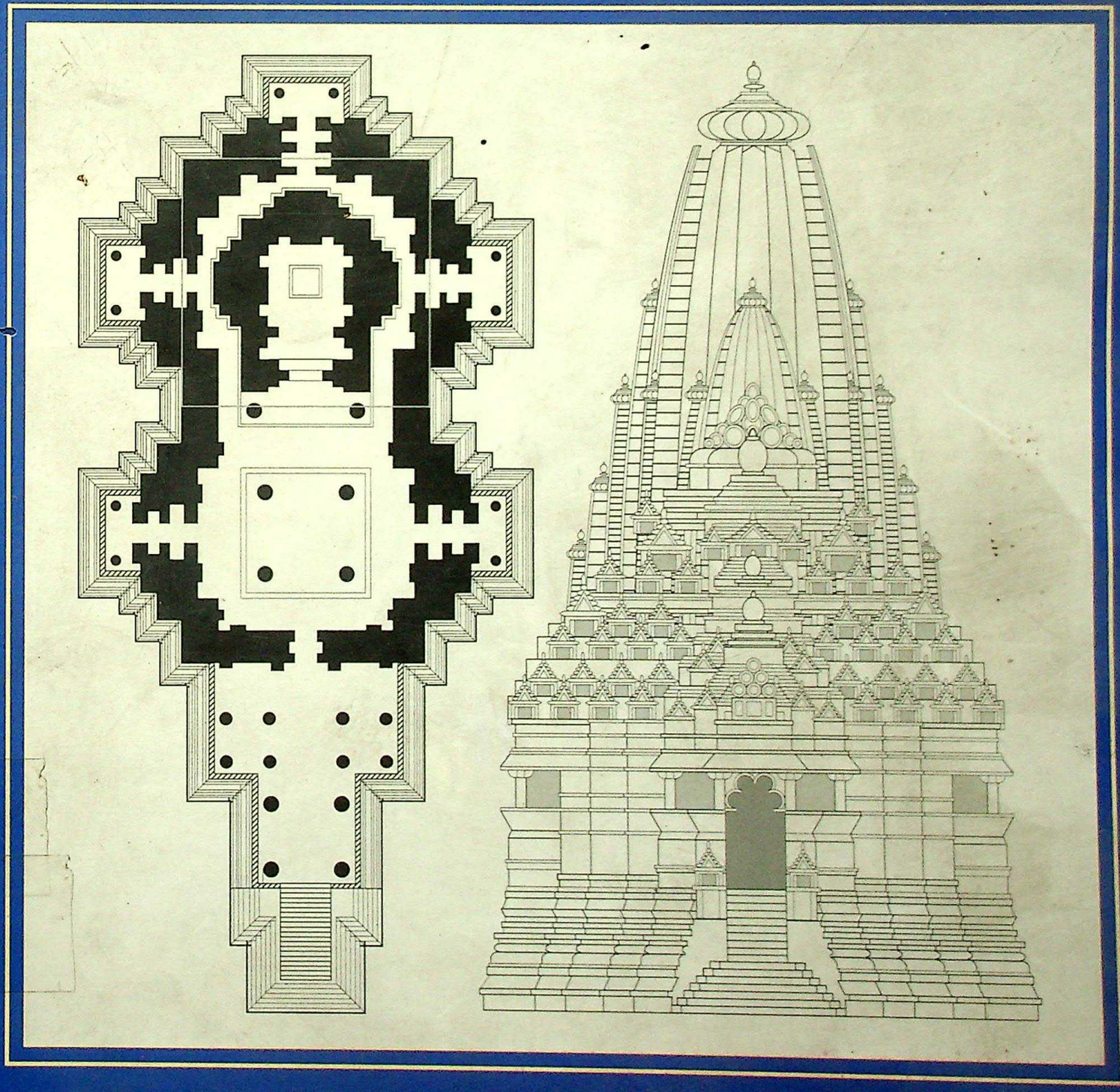
Digitized by Arya Samaj Foundation Chennai and eGangotri

The Iconography of Architectural Plans

— Fredrick W. Bunce —



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Arya Samaj Foundation Chennai

Bunce

The Iconography of Hindu Architectural Plan

R
720.284
BUN-T

Digitized by Arya Samaj Foundation Chennai and eGangotri

Digitized by Arya Samaj Foundation Chennai and eGangotri

R
720.284
BUN-T
135372

गुरुकुल कांगड़ी विश्वविद्यालय
कृपया पुस्तक के ऊपर कोई निशान आदि
न लगायें।

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

720.284
BUN-T

पुस्तकालय

गुरुकुल कांगड़ी विश्वविद्यालय, हरिद्वार

वर्ग संख्या ..... आगत संख्या 135372

पुस्तक विवरण की तिथि नीचे अंकित है। इस तिथि सहित ३० वें दिन यह पुस्तक पुस्तकालय में वापस आ जानी चाहिए। अन्यथा ५० पैसे प्रति दिन के हिसाब से विलम्ब दण्ड लगेगा।

135372

Stock Verification-2024

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Iconography of Architectural Plans

A Study of the Influence of Buddhism and Hinduism on Plans of South and Southeast Asia

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Iconography of Architectural Plans

A Study of the Influence of Buddhism and Hinduism on Plans of South and Southeast Asia

by

Fredrick W. Bunce, M.F.A., Ph.D.
Professor Emeritus of Art
Indiana State University

135372

D.K. Printworld (P) Ltd.
New Delhi

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Cataloging in Publication Data — DK

Bunce, Fredrick W. (Fredrick William), 1935 –
The iconography of architectural plans.
Includes bibliographical references (p.)
Includes index.

1. Architecture — Asia — Buddhist influences. 2. Architecture — Asia — Hindu influences. 3. Idols and images — Asia — Buddhist influences. 4. Idols and images — Asia — Hindu influences. 5. Art, Buddhist — Asia. 6. Art, Hindu — Asia. I. Title.

ISBN 81-246-0200-X

First published in India in 2002

© Author

R
720.284
BUN-T.

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage or retrieval system, without prior written permission of both the copyright owner, indicated above, and the publisher.

Published and printed by :
D.K. Printworld (P) Ltd.
Regd. office : *'Sri Kunj'*, F-52, Bali Nagar
New Delhi - 110 015
Phones : (011) 545-3975; 546-6019; *Fax* : (011) 546-5926
E-mail : dkprintworld@vsnl.net

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Preface

I first must state that I am not just intrigued by, but, have an affection bordering on the passionate for the cultures of South and Southeast Asia. To many, this may seem antithetical for one raised in the American heartland and schooled at institutions of no mean academic standing. My studies, and, therefore, my interests had been centered in the European tradition--Eurocentric. This was the norm at that time, even though my baccalaureate institution was one of the first liberal arts colleges to institute and Asian Study program in America. Nonetheless, my deprivation of broad cultural knowledge or understanding was not unusual and the filling of this void has provided many interesting and unexpected problems and answers.

My first physical contact with Asia, a sabbatical leave years ago, became for me and emotional and intellectual saga. Deplaning in Singapore, after a long and somewhat arduous flight(s) from Indianapolis, I was filled with the strange presentiment that I was coming home! Realizing that as a Caucasian, I was in a distinct minority, nonetheless, I felt comfortable. I also had the feeling that I had been here before. It was not the normal *déjà vu*, but something more elemental!

Obviously, there were certain physical characteristics of the cities that needed getting used to--e.g., the streets, in general were not straight, but meandered, serpentine-like. With few exceptions, broad boulevards did not exist; and the buildings generally were two or three storeys high (the exceptions were, of course, the post W. W. II, and the ubiquitous "modern" structures). Geography, also, presented some adjustment--e.g., being deep within the tropics, the sun rose around 7:00 a.m. and set around 7:00 p.m. year around with little variation. When the sun set, darkness came quickly, not like the long, protracted dusks that I had been used to coming from the northern part of the United States. For the first time in my life my shadow was cast southward (during most of the year). And, of course, there was the heat which I was able to acclimatize myself to in a remarkably short period of time. There were certain customs that forced modification of my preconditioning--e.g., people had no concept of direction, undoubtedly due to the serpentine ways and byways, yet few became lost and were always aware of locale; and the concept of time was not based upon the minute or hour, but upon the day which made planing a dinner party (Western style) futile.

Yet, these were trivial. There were other conditions or practices in this part of the world that seemed rather normal to me, and I reacted or acted in a manner antithetical to most Westerners--e.g., most interior spaces were considerably smaller, particularly within temples, shops and restaurants a condition which brought no discomfort; in the ways and byways of the cities or towns people generally used the streets rather than the sidewalks (if they existed), a practice to which I easily adapted; when entering a temple (Buddhist or Hindu) I naturally walked clockwise around the structure; and the eating of ones meals, particularly in Malaysia, Thailand and Indonesia, with the right hand was quickly mastered.

There was one thing which jarred my sensibilities--the use of color and the admixture of patterns in one's attire. There was not the profusion of muted, grayed colors ("earth tones") to which I had been

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

exposed in the West. The colors were bright, even intense and ran, generally, to the primary and secondary colors. This, in the beginning, rankled my Aesthesia honed by years of art training and practice. However, I very soon became aware of this practicality, even the desirability of this practice when dealing with the tropical sun--always overhead, always intense, always shining. The combination of patterns with in one's dress took me a longer period of time with which to become accustomed. Ladies frequently wore bright, abstract patterned *sarongs* with a floral *baju* and a *tudung* of a different color and pattern--men might wear striped trousers or a plaid *sarong* and a paisley *batik* shirt. But, then one day while perusing a tome of Victoriana, I became aware that there was little difference between the two seemingly separate practices--it was a matter of choice, a matter of taste, a matter of style.

This was, frankly, the first time that I had become aware of the insidiousness of Eurocentrism--I'm not sure I was even aware of the term or its implications before that time. However, I was aware of my anger! Why were such glories--such as the *Sultan Abdul Samad Building*, Kuala Lumpur; the *Wat Phra Chetuphon*, Bangkok; the *Shwe Dagon Pagoda*, Rangoon (Yangoon); the *Dubar Marg*, Kathmandu; the incomparable *Borobudur*, Java, etc.--not covered, not even mentioned in my "Survey of Art History" classes? When I, for the first time, visited the *Wat Phra Kaew*, I said, out loud, "Now this is Baroque!" The shifting planes, the riot of color, the varying textures, the profusion of forms, the treatment of interior and exterior space created not only an intellectual reevaluation, an aesthetic awakening, but a viable visceral response. I was shaken to the core and simultaneously touched.

I then began to "re-tool."

Then, after buying a number of fine *thangkas*, I became immersed--more accurately: was forced to become immersed--in the study of Buddhist iconography, hence, my first major publication. In dealing with Buddhist iconography, I was immediately aware of the large debt to Hindu iconography, therefore, my second endeavor. This, quite naturally, led me to a third protracted work dealing with the iconography of Hindu deities. It was at this time, during my consideration of Hindu iconography, that I became aware of certain parallels, iconic threads within the plans of the various Buddhist and Hindu structures.

From time to time in life, and no less in research, happy accidents occur. In my instance, in this study, it came quite a distance from the beginning when I was dealing with a particularly vexing problem of cross-axiality, I stopped my work and for some reason, glanced at the computer generated plan of *Wat Phra Chetuphon*, Bangkok, upon which I was working. It is the one place in Bangkok where I visit every time I am in that city. The form of the *buddhawat* is asymmetrical, yet I became aware of the cross-axial, actually, mirror-cross-axial, nature of the *ubosot* and its ensemble. It is rectangular, not square. I circled the outer reaches of the *phra rabiang khot*, then the inner courtyard, the terrace upon which the *ubosot* rests and the cella of the *ubosot*. Immediately, I saw that these four circles apparently progressed equally. All that was needed were the cardinal and intercardinal axes, and, behold, a *Manduka Mandala*! It was observed that in many of the Buddhists monuments where a square *mandala*-grid could not be applied, a circular *Manduka Mandala* became imminently applicable.

I certainly don't mean to infer some sort of paranormal phenomenon in this discovery, nor do I ascribe to the concept of reincarnation. Yet certain things became apparent which heretofore had not even entered my consciousness. It became evident that I had to reevaluate. There was nothing unusual in this reevaluation. I have been trained in the studio arts as well as in the academic pursuit of Art

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

History--more specifically, Comparative Arts--and this training has caused be to see relationships, patterns that may not be as easily observed by those not trained in the application of the visual arts--the studio arts of painting and sculpture.

The method of research that I chose to pursue in this endeavor was essentially opposite from the way in which I had been so carefully trained--i.e., going from the general to the specific. For some reason the specific was apparent and the opposite direction needed to be utilized.

"Necessity is the mother of invention."

These parallel, iconic threads within the plans became apparent in a number of structures. *Stupa I*, at Sanchi, was mirrored by its use of the circle in the *Thuparama Dagoba*, of Anuradhapura, but found the application of the square in the *Ruvanveliseya Dagoba*, also of Anuradhapura. Many centuries later the square, in the form of a *pancharatha* and *triratha* had been developed as a base for a *stupa* in the famed *Borobudur* of Java. This seemed to be an obvious reference to the *triratha* and *pancharatha* of Hindu India. Even later this form--i.e., the *triratha* and *pancharatha*--with smaller indentations or redentions became the norm for the *chedis* of Ayutthaya and the circular *anda* disappeared, giving way to an *anda* that was essentially a redented square. Yet the square is essentially considered to be an iconic shape that is sacred to the Hindu as the circle is to the Buddhist. On the other hand, the square plan *Ladh Khan*, Aihole, which appears to find the influence of the square in numerous later examples, finds its plan-opposite in the *Shiva Temple* at Indor, the *Subrahmanya Temple*, Manjeri, or even the *Shiva Temple*, Masaon, where the circle predominates. Certain precedents that had been established in the *Bakong* at Rolous, refined at the *Ta Keo*, Angkor and synthesized in *Angkor Wat* were essentially overturned, or at least veered from in the enigmatic *Bayon*--from the square to the circle.

Whereas the square and/or the circle with their emphasis on cross axiality were the basis for plan developments in the region, particularly the region which was heavily influenced by India, there also arose a plan that was strictly axial, even rectilinear--e.g., the *Bogyoke-Mi Kubyauk* of Pagan, the *Chandi Sari* of Prambanan, the *Prasat Phimai*, the *Wat Phra Chetuphon* of Bangkok, etc. These temples appear to have abandoned the square *mandala*--such as the *Vastu-purusha Mandala*, the *Manduka Mandala* and the *Paramasayika Mandala*--as a basis for plan design. Of course, one must take into account cultural imperatives and predilections. Certainly, the square temples and/or ensembles could easily accommodate a square *mandala*-grid--e.g., *Borobudur* and *Chandi Sewu*, both of which are reputed to be examples of either the *Mahayana/Vajrayana Vajradhatu* or *Dharmadhatu Mandalas*. But, how were these rectilinear, anomalous productions "tied" into the plan/design concept originally formulated by the early Indian builders when obviously they were not square in any of their elements?

A cursory purview of available material indicates "in depth" studies of the various cultures of South and Southeast Asia usually dealing with the cultures singly and independently. Although most works focusing on a particular Southeast Asian culture refer to their debt to India ("Indianization"), few did more than merely acknowledge this debt. Indeed, most referred to, or dealt with Indianization as it applied to the elevations and/or the sculptural and architectural-sculpture of various monuments.

The plans, when and where indicated, were merely employed to indicate "layout" of the particular temple or monument. The possibility of the plan being an iconographic element was barely, if ever, considered. Within architectural history studies of the West, this, too, is the case. Virtually all texts will

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

mention that Chartres Cathedral is "cruciform in plan." The "Tau cross" of Old St. Peters, the "Latin cross" of Cologne Cathedral, the "Greek cross" of Michaelangelo's St. Peters, or the "Cyrilic cross" of Salisbury Cathedral, are seldom considered as individual symbols and virtually never dealt with in a comparative nature.

The basic element of Buddhist and Hindu temple and monument architecture, the plan, was fraught with iconographic import and input. The important *Manasara* or the *Mayamata*, guides, compendia to design, place great emphasis upon numbers and numerous formulae to be considered in the design, layout and proportions of a building. The priest/architect, the *sthapati*, referred to these architectural lodestars in determining the whole within a cosmological frame work.

There are a number of terms that are employed which may vary with standard, and/or accepted definitions or implications. "*Buddhic*" is used in an adjectival form to refer to architecture in which the form, use and content are derived from the practice of either *Mahayana* or *Theravada Buddhism*. Likewise, "*Hindic*" is used in an adjectival form to refer to architecture in which the form, use and content are derived from the practice of the three Hindu sects--i.e., the *Vaishnavas*, the *Shaivas* or the *Shaktis*. "*Numerology*" refers to the iconic value of numbers--i.e., beyond: 1) their numerical value, 2) their use to predict the future or 3) their use in divination. "*Mount ensemble*" is utilized, particularly in Javanese and Khmer architecture to refer only to those architectural elements found on terraced forms. "*Temple ensemble*" is employed to refer to the various elements contained within the girdle wall of a temple precinct. "*Elevation*" is used in a strict architectural sense--i.e., the planal view of one side of a structure, without the employment of perspective. "*Architectural sculpture*" refers to those three dimensional, "decorative" elements, frequently figural, which are not "in the round" or free standing, but integrated within the structure. "*Proportional*" is utilized, particularly in reference to elevations--e.g., "proportional elevation"--to indicate the proportional relationship of one architectural and/or structural element to another within a single monument, not the representation of the elevation as a "detailed, to scale drawing" and, more importantly, the over all visual impression of the monument. "*Axial*" and "*cross-axial*" are two important terms which will be dealt with separately in the opening sections of this study.

The form of a temple or monument, as well as its relationship to the compass is an important consideration. Therefore, various related considerations need to be dealt with--e.g., orientation, the square, the circle, axiality, cross-axiality, the rectangle, construction, rules and ratios, the non-congregational necessity, the high place as a consideration as well as the cave, and, finally, the stupa as a unique "architectural" form.

Influences from the past or present must be considered. There appear to be a number of viable "influences" which exert various amounts of control--e.g., textual, philosophic/theologic, numerological, astrological, 'regionality', and most importantly, the *mandala*.

The scope of this study is limited to: 1) India-Sri Lanka with their Vedic, Buddhic and Hindic monuments as well as what may be considered as elements of amalgamation of these three influences; 2) the Buddhic and Hindic Indianized states of Java (Indonesia), Khmer (Kambuja), Pagan (Myanmar), Thailand, Champa (Vietnam), and 3) the influence of India on the non-Buddhic and/or non-Hindic state of Malaysia (Malacca Sultanate).

The monuments were chosen as they: 1) exemplified the culture from which they were drawn, and, 2) the exemplified the standard, variation and shift in the Indianization continuum. Each

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

monument considered in the body of this work is considered separately and contains: 1) a description of the "layout" as well as its application to the standard, variation and shift in the Indianization continuum; 2) the application of a suitable *mandala* to the plan; and, 3) the application of numerological considerations.

Four appendices are to be found at the end of the main body: 1) "Appendix A -- Miscellaneous Plans and Elevations" which is annotated, 2) "Appendix B -- Rulers of: Burma (Myanmar), Kambuja (Cambodia) (Khmer Empire), India (Maurya, Shunga, Kanva, Andhra, Satavahana, Kushan, Gupta, Pallava, Chalukya, Rashtrakuta, Pala and Sena, Chola, Chandella, Hoysala, Sena and Mogul Dynasties), Indonesia (Java & Sumatera), Sri Lanka, Thailand (Siam) (Kingdoms of Sukhothai, Chieng Mai, Ayutthaya, Thon Buri & Rattanakosin/Bangkok), and Viet Nam (Champa);" 3) "Appendix C -- A Chronology of: India, Sri Lanka, Indonesia, Cambodia, Burma (Myanmar), Thailand and Viet Nam, Including: major monuments, styles and political events;" and, "Appendix D -- A Glossary of Architectural and Related Terms."

Finally, an extensive "Index" is supplied in which all Indic terms are included along with their transliteral spellings, including all diacritical marks, in parentheses.

F. W. Bunce.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Contents

Preface v
List of Plates xvii
List of Figures xxi
Abbreviations xxvii
Introduction --Architectural Iconography 1
The Basis of Form 5
Philosophic and Theological Foundations 15
Numerology 19
Astrology/Astronomy 30
Additional Iconic Concerns 31
The Mandala 35
Magic Squares Mandalas 35
Vastu-purusha Mandala 40
Manduka Mandala 42
Paramasayika Mandala 44
Manduka Mandala, Circular 46
Vajrayana Mandala 48
Vajradhatu Mandala 50
Stupa, Symbolism and Numerology 52
Gyantse Kumbum, Gyantse, Tibet 56
Garbh-Griha Plan 58
Ancillary Shrine Plan 60
Temple Plan 62
Notes 64

India and Sri Lanka 67
Stupa I, Sanchi, India 70
Thuparama Dagoba, Sri Lanka 72
Ruvanveli Dagoba, Sri Lanka 76
Chaitya Hall, Karli, India 78
Buddhist Cave-Monastery #2, Ajanta, India 82
Ladh Khan, Aihole, India 86
Durga Temple, Aihole, India 90
Shiva Temple, Indor, India 94
Subrahmanya Temple, Manjeri, India 98
Kilatali Shiva Temple, Thiruvanchikula, India 102
Vatadage, Polonnaruwa, Sri Lanka 104
Tivanka Pilimage (Lankatilaka), Polonnaruwa, Sri Lanka 110
Brahmeshvara Temple, Bhuvaneshvar, India 114
Keshava Temple, Somnathpur, India 118

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Contents (Continued)

Garden Pavilion, Kotilal Fort, Delhi, India 124
Notes 127

Java (Indonesia) 129

Borobudur, Java 132
Chandi Lumbung, Prambananm, Java 140
Chandi Sewu, Prambananm, Java 144
Loro Jonggrang, Prambananm, Java 150
Chandi Sari, Prambananm, Java 156
Chandi Djago, Malang, Java 160
Chandi Panataran Sanctuary, Kediri, Java 164
Notes 168

Khmer (Kambuja) 169

Preah Ko, Roluos 172
Bakong, Roluos 176
Bakheng (Mount Ensemble), Angkor 180
Ta Keo Shrine, Angkor 186
Phimai Prasat, Thailand 192
Banteay Samre Temple, Angkor 196
Baphuon, Angkor 200
Angkor Wat, Angkor 206
Bayon, Angkor Thom, Angkor 214
Notes 222

Pagan (Myanmar [Burma]) 223

Nat-Hlaung-Kyaung, Pagan 226
Nan-Hpaya, Pagan 230
Myin-Pya-Gu, Pagan 234
Shwe-Zigon Pagoda, Pagan 238
Naga-Yon, Pagan 242
Ananda Temple, Pagan 246
That-Byin-Ngu, Pagan 252
Dhamma-Yan-Gyi, Pagan 258
Gawdaw-Palin, Pagan 262
Myinkaba Kubyauk-Nge, Pagan 266
Bogyoke-Mi Kubyauk, Pagan 270
Dhamma-Yazika, Pagan 274
Mingala-zeidi, Pagan 278
Pentagonal Temple (Pancha-Buddhas) (near Mingalazedi Stupa), Pagan 282
Paya-Thon-Zu, Pagan 284
Notes 287

Lanna Tai, Sukhothai, Ayutthaya & Rattanakosin (Thailand) 289

Chedi Wat Kukut, Lamphun 292

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Contents (Continued)

Chedi Wat Chang Lom, Si Satchanalai 296
Wat Phra Chao Phanan Choeng, Ayutthaya 300
Wat Mahathat, Sukhothai 304
Wat Phra Si Rattana Mahathat, Ayutthaya 310
Wat Phra Ram, Ayutthaya 314
Wat Ratchaburana, Ayutthaya 318
Wat Chedi Chet Yot, Chiang Mai 322
Wat Phra Si Sanphet, Ayutthaya 326
Chedi Wat Phukhao Thong, Ayutthaya 330
Wat Chai Watthanaram, Ayutthaya 334
Wat Phra Chetuphon, Bangkok 338
Lohaprasad, Wat Theptidaram, Bangkok 344
Notes 348

Champa (Viet Nam) 351
Pho-hai Shrine, Phan-thiet 352
Khüöng-my Shrine, n. Hoi-an 354
Dong-Düöng Monastery 356
Notes 359

Postscriptus: Malaysia 361
Masjid Terengkera, Malacca 362
Masjid Kampung Laut, Kelantan 366
Masjid Kampung Kling, Malacca 368
Masjid Kampung Hulu, Malacca 370
Notes 372

Conclusions 373

Bibliography 381

Appendix A
Miscellaneous Related Plans, Elevations and Sections 397
Dharmarajaratha, Mahaballipuram, India; *Preah Thkol*, Angkor, Kambuja 410
Thupurama Dagoba, Anuradhapura, Sri Lanka 411
Ruvanveliseya Dagoba, Anuradhapura, Sri Lanka 412
Maha-Vihara Dharmapala, Paharpar, India 413
Parvati Temple, Nachna, India 414
Shiva Temple, Bhumara, India 415
Vijayalaya-colisvara Temple, Narittamalai, India 416
Shiva Temple, Masaon, India 417
Shiva Temple, Chandrehe, India 418
Maha-Lingaraja Mandir, Bhuvaneshvar, India 419
Kandariya Mahadeo, Khajuraho, India 420
Kandariya Mahadeo, Khajuraho, India 421
Temple of the Sixty-four Yoginis, Bheraghat, India 422

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Contents (Continued)

Tomb of Humayun, Delhi, India 423
One Room, Three Alcove Temple, Java 424
Chendebji Stupa, Bhutan 425
Chendebji Stupa, Bhutan 426
Tibetan Chorten 427
Chandi Kalasan, Java 428
Loro Jonggrang, Chandi Perwara, Java 429
Loro Jonggrang, Chandi Brahmá, Java 430
Chandi Sewu, Prambanan, Java 431
Chandi Sari, Prambanan, Java 432
Chandi Sari, Prambanan, Java 433
Chandi Plaosan Lor, Prambanan, Java 434
Chandi Plaosan Lor, Prambanan, Java 435
Chandi Kidal, Malang, Java *Chandi* 436
Djago, Malang, Java 437
Preah Ko, Roluos, Kambuja 438
Plan , *Roluos* (Hariharalaya), Kambuja 439
Ta Keo, Angkor, Kambuja 440
Ta Keo Mount, Angkor, Kambuja 441
Wat Ek, Battambang, Kambuja 442
Banteay Srei, Angkor, Kambuja 443
Angkor Wat, Angkor, Kambuja 444
Neak Pean, Angkor, Kambuja 445
Plan. Angkor, Kambuja 446
Bayon, Angkor, Kambuja 447
Cross axial & Axial Plans, Myanmar 448
Ananda, (Pagan, Myanmar 449
Ananda, Pagan, Myanmar 450
Ananda, Pagan, Myanmar 451
That-Byin-Nyu, Pagan, Myanmar 452
That-Byin-Nyu, Pagan, Myanmar 453
Dhamma-Yan-Gyi, Pagan, Myanmar 454
Gawdaw-Palin, Pagan, Myanmar 455
Gawdaw-Palin, Pagan, Myanmar 456
Dhamma-Yazika, Pagan, Myanmar 457
Dhamma-Yazika, Pagan, Myanmar. 458
Mingala-zeidi, Pagan, Myanmar 459
Somin-Gyi Ok-Kyaung, Pagan, Myanmar 460
Pentagonal Temple, Pagan, Myanmar 461
Wat Kaew, Chaiya, Thailand 462
Chedi Si Liem, Chiang Mai, Thailand 463
Wat Phra Phai Luang, Sukhothai, Thailand 464
Wat Mahathat, Sukhothai, Thailand 465
Chedis, Thailand 466
Prang, Wat Phra Ram, Ayutthaya, Thailand 467
Mahabodhi, Pagan, Myanmar 468
Chedi Chet Yot, Chiang Mai, Thailand 469
Chedi Si Suriyothai, Wat Suan Luang Sop Sawan, Ayutthaya, Thailand 470
Elevation, subsidiary stucco chedi, *Wat Khian*, Ayutthaya 471

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Contents (Concluded)

Wat Phra Kaew, Bangkok, Thailand 472
Wat Suthat, Bangkok, Thailand 473
Typical *Ubosots/Viharn* Plans, Thailand 474
Plan, *Wat Arun Rajtharam*, Thonburi, Thailand 475
Prang, Wat Arun Rajtharam, Thonburi, Thailand 476
Wat Benchamabophit, Bangkok, Thailand 477
Lohaprasad, Wat Ratchanatdaram, Bangkok, Thailand 478
Temple A-1, Mi Son, Vietnam 479
Temple A-1, Mi Son, Vietnam 480
Po Nagar, Nha Trang, Vietnam 481
Masjid Tarenquerah, Malacca, Malaysia 482
Masjid Kampung Laut, Terengganu, Malaysia 483
Masjid Kampung Hulu, Malacca, Malaysia 484
Rumah Tiang Enam (*Rumah Ibu* or *Rumah Bujang*), Malaysia 485
Malacca-style House, Malaysia 486

Appendix B

Rulers of : Burma (Myanmar), Cambodia (Kampuchea) (Khmer Empire), India (Maurya, Shunga, Kanva, Andhra, Satavahana, Kushan, Gupta, Pallava, Chalukya, Rashtrakuta, Pala and Sena, Chola, Chandella, Hoysala, Sena and Mogul Dynasties), Indonesia (Java & Sumatra), Sri Lanka, Thailand (Siam) (Kingdoms of Sukhothai, Chieng Mai, Ayutthaya, Thon Buri & Rattanakosin/ Bangkok), and Viet Nam (Champa) 487

Appendix C

A Chronology of: India, Sri Lanka, Indonesia (Java), Cambodia, Burma (Myanmar), Thailand and Viet Nam; including major monuments, styles and political events 505

Appendix D

Glossary 513

Index 529

Acknowledgements 553

Addendum (That Luang, Vientiane, Lao) 555

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Plates

Plate		page
1.	Magic *Mandalas* (circular)	37
2.	*Vastu-purusha Mandala*	41
3.	*Manduka Mandala*	43
4.	*Paramasayika Mandala*	45
5.	Circular *Manduka Mandala*	47
6.	*Vajrayana Mandala*	49
7.	*Vajradhatu Mandala*	51
8.	*Stupa*, Symbolism and Numerology	53
9.	*Gyantse Kumbum*, Gyantse	57
10.	*Garbha-griha* Plan	59
11.	Ancillary Shrine Plan	61
12.	Temple Plans: a. *Brihadeshvara Temple* (garbha-griha), Tanjore b. *Brahmeshvara Temple* (*garbha-griha* and *mandapa*), Bhuvaneshvar	63
13.	*Stupa I*, Sanchi	71
14.	*Thuparama Dagoba*, Sri Lanka	73
15.	*Ruvanveli Dagoba*, Sri Lanka	77
16.	*Chaitya Hall*, Karli	79
17.	*Buddhist Cave-Monastery #1*, Ajanta	83
18.	*Ladh Khan*, Aihole	87
19.	*Durga Temple*, Aihole	91
20.	*Shiva Temple*, Indor	95
21.	*Subrahmanya Temple*, Manjeri	99
22.	*Kilatali Shiva Temple*, Thiruvanchikula	103
23.	*Vatadage*, Polonnaruwa, Sri Lanka	107
24.	*Tivanka Pilimage*, Polonnaruwa, Sri Lanka	111
25.	*Brahmeshvara Temple*, Bhuvaneshvar	115
26.	*Keshava Temple*, Somnathpur	119
27.	*Garden Pavilion*, Kotilal Fort, Delhi	125
28.	*Borobudur*, Java	133
29.	Elevation, *Borobudur*, Java	135
30.	*Borobudur* (level designation), Java	137

Plate		page
31.	*Borobudu*, indicating *Manduka Mandala* [top left], *Paramashayika Mandala* [top right] and *circular Manduka Mandala* [bottom])	139
32.	*Chandi Lumbung* Ensemble, Prambanan, Java	141
33.	*Chandi Sewu*, Prambanan, Java	145
34.	*Chandi Sewu* Sanctuary, Prambanan, Java	147
35.	*Loro Jonggrang*, Prambanan, Java	151
36.	*Chandi Sari*, Prambanan, Java	157
37.	*Chandi Djago*, Malang, Java	161
38.	*Chandi Panataran* Sanctuary, Kediri, Java	165
39.	*Preah Ko*, Roluos	173
40.	*Bakong*, Roluos	177
41.	*Bakheng* Ensemble, Angkor	181
42.	*Ta Keo* (temple mount & surrounding enclosures), Angkor	187
43.	*Ta Keo* Principle Shrine with Plinth, Angkor	189
44.	*Phimai* Temple (*Prasat Hin Phimai*), Phimai	193
45.	*Banteay Samre* Temple Ensemble, Angkor	197
46.	*Banteay Samre* Temple Central Shrine), Angkor	199
47.	*Baphuon*, Angkor	201
48.	*Angkor Wat*, Angkor	207
49.	*Angkor Wat*, Angkor (Sanctuary Ensemble)	209
50.	*Bayon*, Angkor Thom, Angkor	215
51.	*Bayon* Sanctuary, Angkor Thom, Angkor	219
52.	*Nat-Hlaung-Kyaung*, Pagan	227
53.	*Nan-Hpaya*, Pagan	231
54.	*Myin-Pya-Gu*, Pagan	235
55.	*Shwe-Zigon Pagoda*, Pagan	239
56.	*Naga-Yon*, Pagan	243

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Plates (Continued)

Plate		page
57.	*Ananda* Temple, Pagan	247
58.	*That-Byin-Nyu* (main shrine plan), Pagan	253
59.	*Dhamma-Yan-Gyi*, Pagan	259
60.	*Gawdaw-Palin*, Pagan	263
61.	*Myinkaba Kubyauk-Nge*, Pagan	267
62.	*Bogyoke-Mi Kubyauk*, Pagan	271
63.	*Dhamma-Yazika*, Pagan	275
64.	*Mingala-zeidi*, Pagan	279
65.	Pentagonal Temple (*Pancha-Buddhas*), Pagan	283
66.	*Paya-Thon-Zu*, Pagan	285
67.	*Chedi Wat Kukut*, Lamphun	293
68.	*Chedi Wat Chang Lom*, Si Satchanalai	297
69.	*Wat Phra Chao Phanan Choeng*, Ayutthaya	301
70.	*Chedi Wat Mahathat* (*chedi* ensemble), Sukhothai	305
71.	*Wat Mahathat* (central ensemble with *chedi* ensemble)	307
72.	*Wat Phra Si Rattana Mahathat* (central shrine), Ayutthaya	311
73.	*Wat Phra Ram* (central shrine), Ayutthaya	315
74.	*Wat Ratchaburana* (*Wat Ratburana*), Ayutthaya	319
75.	*Chedi Chet Yot* (central shrine), Chiang Mai	323
76.	*Wat Phra Si Sanphet*, Ayutthaya	327
77.	*Wat Phra Si Sanphet* (Central Shrines), Ayutthaya	329
78.	*Chedi Wat Phu Khao Thong*, Ayutthaya	331
79.	*Wat Chai Watthanaram* (Central Ensemble), Ayutthaya	335
80.	*Wat Phra Chetuphon Wimonmangkhalaram* (*buddha-wat*)	339
81.	*Wat Phra Chetuphon Wimonmangkhalaram* (*ubosot ensemble*)	343
82.	*Lohaprasad, Wat Theptidaram*, Bangkok	345
83.	*Pho-hai* Shrine, Phan-thiet	353
84.	*Khüông-my* Shrine, Hoi-an	355
85.	*Dong-Düông* Monastery	357
86.	*Masjid Tranquerah*	363
87.	*Masjid Kampung Laut*	367
88.	*Masjid Kampung Kling*	369
89.	*Masjid Kampung Hulu*	371
90.	Cross-Axial Plan: *Dharmarajaratha*, Mahaballipuram (adapted plan); *Preah Thkol* Central Shrine, Angkor	410
91.	Elevation, *Thupurama Dagoba*, Anuradhapura	411
92.	Elevation, *Ruvanveliseya Dagoba*, Anuradhapura	412
93.	Cross-Axial Plan: Temple of *Maha-Vihara Dharmapala*, Paharpar	413
94.	Axial Plan, *Parvati* Temple, Nachna, India	414
95.	Axial Plan, *Shiva* Temple, Bhumara, India	415
96.	Axial Plan, *Vijayalaya-colisvara* Temple, Narittamalai, India	416
97.	Axial Plan, *Shiva* Temple, Masaon, India	417
98.	Axial Plan, *Shiva* Temple, Chandrehe	418
99.	Elevation and plan, *Maha-Lingaraja Mandir*, Bhuvaneshvar	419
100.	Axial plan, *Kandariya Mahadeo*, Khajuraho	420
101.	Elevation (proportional), *Kandariya Mahadeo*, Khajuraho	421
102.	Plan, *Temple of the Sixty-four Yoginis*, Bheraghat	422
103.	Cross-Axial Plan: Tomb of Humayun, Delhi	423
104.	Axial Plan: One Room, Three Alcove Temple (typical) Java	424
105.	Cross Axial Plan, *Chendebji Stupa*, Bhutan (central)	425
106.	Elevation, *Chendebji Stupa*, Bhutan (central)	426
107.	Elevation, *Tibetan Chorten*	427
108.	Cross-Axial Plan: *Chandi Kalasan*, Java	428
109.	Elevation: *Loro Jonggrang, Chandi Perwara*, Java (proportional)	429
110.	Elevation: *Loro Jonggrang, Chandi Brahmá*, Java (proportional)	430

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Plates(Continued)

Plate		page
111.	Elevation (proportional view), *Chandi Perwara* (first court), *Chandi Sewu*, Prambanan, Java	431
112.	Elevation (proportional view) *Chandi Sari*, Prambanan, Java	432
113.	Elevation (proportional view), Indicating the 30° Standard, *Chandi Sari*, Prambanan, Java	433
114	Elevation (proportional view), *Chandi Plaosan Lor*, Prambanan, Java)	434
115.	Elevation (proportional view), Indicating the 30° Standard, *Chandi Plaosan Lor*, Prambanan, Java	435
116.	Elevation (proportional view), *Chandi Kidal*, Malang, Java	436
117.	Elevation (probable), *Chandi Djago*, Malang, Java	437
118.	Axial Plan, Shrine, *Preah Ko* , Roluos	438
119.	Plan (indicating major monuments), *Roluos* (Hariharalaya)	439
120.	Elevation (a: proportional view from the east of the major architectural blocks and b: ensemble lay-out), *Ta Keo*, Angkor	440
121.	Plan, *Ta Keo* Mount Ensemble	441
122	Axial Plan: *Wat Ek* (Central Shrine), Battambang,	442
123.	Elevation: *Banteay Srei*, Angkor, Southern Shrine (proportional)	443
124.	Axial Plan: Northwest Library, *Angkor Wat*	444
125.	Cross Axial Plan, *Neak Pean*, Angkor	445
126.	Plan (indicating major monuments), *Angkor*	446
127.	Elevation: Bayon, reconstruction of the *shikaras* of the central shrine (proportional)	447
128.	Cross axial & Axial Plans: Pyu Shrines; a. *Lemyethna*, Shri Kshetra b. *Bebe* Temple, Shri Kshetra	448
129.	Elevation: *Ananda*, (proportional), Pagan	449
130.	Elevation: *Ananda*, (proportional, indicating triangular composition), Pagan	450
131.	Section (proportional), *Ananda*, Pagan	451
132.	Elevation: *That-Byin-Nyu*, east (proportional)	452
133.	Section: *That-Byin-Nyu*	453
134.	Elevation (proportional), *Dhamma-Yan-Gyi*, Pagan	454
135.	Elevation: *Gawdaw-Palin* (proposed), Pagan	455
136.	Section: *Gawdaw-Palin* (proposed), Pagan	456
137.	Axial Plan: subsidiary Shrine, *Dhamma-Yazika*	457
138.	Plan: *Dhamma-Yazika* ensemble	458
139.	Elevation (proposed), *Mingala-zedi*, Pagan	459
140.	Plan, *Somin-Gyi Ok-Kyaung*, Pagan	460
141.	Plan indicating *Manduka Mandala*, *Pentagonal Temple*, Pagan	461
142.	Axial Plan: (reconstructed) *Wat Kaew*, Chaiya	462
143.	Elevation (reconstructed), *Chedi Si Liem*, Chiang Mai	463
144.	Plan, *Wat Phra Phai Luang* (shrine ensemble), Sukhothai	464
145.	Plan (enclosures), *Wat Mahathat*, Sukhothai	465
146.	Elevations: Thai *Chedis* indicating variation and development	466
147.	Elevation (reconstructed), *Prang*, *Wat Phra Ram*, Ayutthaya	467
148.	Elevation (proportional), *Mahabodhi*, Pagan	468
149.	Elevation (proportional), *Chedi Chet Yot*, Chiang Mai	469
150.	Elevation, *Chedi Si Suriyothai*, *Wat Suan Luang Sop Sawan*, Ayutthaya	470
151.	Elevation, subsidiary stucco chedi, *Wat Khian*, Ayutthaya	471
152.	*Wat Phra Kaew*, Bangkok	472
153.	Plan *Wat Suthat* (indicating *Manduka Mandala*), Bangkok	473

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Plates(Concluded)

Plate		page
154.	Typical *Ubosots/Viharn* Plans a-- Sukhothai (after *Phra Phuttha Chinarat Viharn*) b-- Ayutthaya, *Wat Phra Mane Ubosot* (after) with elevation c-- Rattanakosin, Temple of *Phra Kaew Morokot*	474
155.	Plan, *Wat Arun Rajtharam*, Thonburi	475
156.	Elevations and Plan, *Prang, Wat Arun Rajtharam*, a. elevation from the uppermost *pradakshinapatha*, b. plan as indicated in a.. c. elevation outline of the whole, Thonburi	476
157.	Elevation: *Prasat* based on: *Wat Benchamabophit*, Bangkok	477
158.	Elevation, *Lohaprasad, Wat Ratchanatdaram*, Bangkok	478
159.	Elevation (proportional, proposed), *Temple A-1* (proposed), Mi Son, Vietnam (c. 10th C. CE)	479
160.	Elevation (proportional), *Temple A-1* (proposed), Mi Son, Vietnam (c. 10th C. CE)	480
161.	Elevation reconstruction (west), *Po Nagar*, Nha Trang, Vietnam	481
162.	*Masjid Tarenquerah* (Proportional), Malacca.	482
163.	*Masjid Kampung Laut* (Proportional), Trengganu	483
164.	*Masjid Kampung Hulu* (Proportional), Malacca	484
165.	Plan and reconstruction, *Rumah Tiang Enam* (*Rumah Ibu* or *Rumah Bujang*)	485
166.	Plan and reconstruction, *Malacca*-style House (with open court)	486
167.	Indian Temple Elevation, identifying various elements	514
168.	Indian Temple Plan, identifying various elements	515
169.	Elements of: Stupa, Dhatu-garbha, Dagoba, Dagaba, Pagoda	516
170.	Thai Wat Plan, identifying various elements (*Wat Phra Chetuphon*)	517
171.	Example of Axiality (*Kilatali Shiva Temple*, Thiruvanchikula)	518
172.	Example of Cross-Axiality (*Ananda*, Pagan)	519
173.	Example of Mirror Cross-Axiality (*Library, Angkor Wat*, Angkor)	520
174.	*That Luang*, Lao	557
175.	*That Luang II*, Lao; Left half indicating 28 engaged *stupikas*; Right half indicating arrangement of 30 engaged *stupikas*	558
176.	*That Luang III*, Lao; Left half indicating 28 *stupikas*; Right half indicating arrangement of 30 *stupikas*	559

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Figures

Figure		page
1.	the consideration of the *yoni*	13
2.	*Garbha-griha* foundation preparations	14
3.	magic square (nine *pada*)	35
4.	magic square (sixteen *pada*)	35
5.	*Surya yantra*	36
6.	cardinal points (four *pada*)	36
7.	magic circle/*mandala* sum sequence	36
8.	magic circle/*mandala* applied to a circular *Manduka Mandala*	38
9.	*mandala* for town with caste designation	44
10.	circular *Vastu-purusha Mandala*	46
11.	*stupa* plan based on Plate VIII	52
12.	*stupa* two-part division & numerical values	52
13.	*bDud-bTul mChod-rten*	56
14.	*triratha* & *pancharatha*	60
15.	elevation, *Brihadeshvara Temple*	62
16.	*sauvastika pradakshina*	70
17.	*Thuparama Dagoba,* half plan indicating circular *Manduka Mandala*	74
18.	*Thuparama Dagoba,* quarter plan indicating a sixty-four *pada* grid	75
19.	*Ruvanveli Dagoba,* indicating square and circular *Manduka Mandala.*	76
20.	suggested bamboo/wooden precinct construction	78
21.	*Chaitya Hall,* indicating square and circular *Manduka Mandala.*	80
22.	*Buddhist Cave Monastery* #2, central area, indicating sixty-four and eighty-one *pada* grid.	82
23.	*Buddhist Cave Monastery* #2, central area and surrounding cells, indicating sixty-four and eighty-one *pada* grid	84
24.	*Buddhist Cave Monastery* #2, the whole, indicating sixty-four and eighty-one *pada* grid	84
25.	*Buddhist Cave Monastery* #2, circular *Manduka Mandala* centered on the hall and including the ten cells	85
26.	*Buddhist Cave Monastery* #2, circular *Manduka Mandala* centered on the hall and including the sanctuary	85
27.	*Ladh Khan,* half plan indicating a sixty-four *pada* and eighty-one *pada* grid	88
28.	*Durga Temple,* indicating sixty-four and eighty-one *pada* grid.	90
29.	*Durga Temple,* indicating an eighty-one and sixty-four *pada* grid over sanctuary.	92
30.	*Durga Temple,* indicating circular *Manduka Mandala*	93
31.	*Shiva Temple,* basic form (upper) and shown rotated 30° and 60° to acheive final form	94
32.	*Shiva Temple,* indicating sixty-four and eighty-one *pada* grid.	96
33.	*Shiva Temple,* indicating circular *Manduka Mandala*	97
34.	*Subrahmanya Temple,* indicating sixty-four and eighty-one *pada* grid	98
35.	*Subrahmanya Temple, garbha-griha* ensemble indicating circular *Manduka Mandala*	100
36.	*Kilatali Shiva Temple, garbha-griha* indicating sixty-four and eighty-one *pada* grid	102
37.	*Kilatali Shiva Temple, garbha-griha* indicating a circular *Manduka Mandala*	104
38.	*Vatadage,* indicating circular *Manduka Mandala* applied to half plan	108
39.	*Tivanka Pilimage,* primary block, indicating sixty-four and eighty-one *pada* gridand extension (– – – – –)	110
40.	*Brahmeshvara Temple, garbha-griha,* indicating a sixty-four and eighty-one *pada* grid and grid over *mandapa.*	114

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Figures (Continued)

Figure		page
41.	*Brahmeshvara Temple, garbha-griha,* indicating a circular *Manduka Mandapa*	116
42.	*Keshava Temple,* sanctuary's basic design element (above) and the repetition of the basic design element (below)	118
43.	*Keshava Temple,* sanctuary's basic design element, indicating *Manduka Mandala* and *Paramashayika Mandala*	120
44.	*Keshava Temple,* west sanctuary and platform, indicating circular *Manduka Mandala*	120
45.	*Keshava Temple,* sanctuary ensemble, indicating circular *Manduka Mandala*	121
46.	*Keshava Temple,* sanctuary ensemble, indicating *Manduka Mandala* and *Paramashayika Mandala*	122
47.	*Garden Pavilion,* ground floor indicating forty-nine *pada* grid	124
48.	*Garden Pavilion,* first storey twenty-five *pada* and second storey nine *pada* grids	124
49.	*Garden Pavilion,* sectional view indicating rock core	126
50.	*Borobudur,* Level I plan	132
51.	*Borobudur,* Level V plan	132
52.	*Borobudur, dagaba* proportion and shape (shown without the lattice-like openings)	134
53.	Magic Square (*Surya*)	136
54.	*Borobudur,* proportion and outline of main *stupa*	136
55.	*Borobudur,* circumambulation (*pradakshinapatha*) indicating the sixty "steps"	136
56.	*Chandi Lumbung,* south-west quadrant indicating a twenty-five and eighty-one *pada* grid	140
57.	*Chandi Lumbung,* west half indicating circular *Manduka Mandala*	142
58.	*Chandi Sewu, Chandi Perwara's* plan, south-west quadrant, indicating four-hundred-eighty-four *pada* grid	144
59.	*Chandi Sewu,* central platform indicating thirty-six and forty-nine *pada* grid	146
60.	*Chandi Sewu,* central platform, indicating a sixty-four and eighty-one *pada* grid	146
61.	*Chandi Sewu,* indicating a five-hundred-seventy-six *pada* grid	148
62.	*Chandi Sewu,* indicating a circular *Manduka Mandala*	148
63.	*Chandi Sewu,* north-west quadrant indicating parallels with *Vajradhatu Mandala*	149
64.	*Loro Jonggrang, Chandi Perwara's* plan, southwest quadrant, indicating the ranks	150
65.	*Loro Jonggrang, Chandi Perwara,* southwest corner and diagonally aligned, indicating false entrance	152
66.	*Loro Jonggrang,* central platform proportions & arrangementof major shrines	152
67.	*Loro Jonggrang,* entire ensemble indicating circular *Manduka Mandala*	153
68.	*Loro Jonggrang,* entire ensemble indicating circular *Karnashtaka Mandala*	153
69.	*Loro Jonggrang,* sanctuary ensemble indicating *Pitha Mandala, Ugrapitha Mandala* and *Asana Mandala*	154
70.	The three wall enclosure of *Loro Jonggrang*	154
71.	Chinese "nested" universe: 1) Imperial center, 2) royal holdings, 3) "Peace Securing" domain, 4) domain of "Restraint," and 5) "Wild" domain	155
72.	*Chandi Sari,* proportional layout indicating "Standard" and 30^0 angle	158
73.	*Chandi Sari,* proportional layout of the temple block and the façade	158
74.	*Chandi Djago,* shrine with platform, indicating sixty-four and eighty-one *pada* grid	160
75.	*Chandi Djago,* shrine with platform, indicating circular *Manduka Mandala*	160
76.	*Chandi Djago,* indicating circular *Manduka Mandala*: including	

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Figures (Continued)

Figure		page
	corners of Plaforrm A (top); and to the edge of Platform A (bottom)	162
77.	*Chandi Panataran*, ensemble layout	164
78.	*Chandi Panataran*, sanctuary ensemble, indicating twenty-five *pada* grid	166
79.	*Chandi Panataran*, sanctuary ensemble, indicating sixty-four and eighty-one *pada* grid	166
80.	*Chandi Panataran*, sanctuary ensemble, indicating circular *Manduka Mandala*	167
81.	*Preah Ko*, principle terrace indicating: inner enclosure (A-B) & outer (C-D) enclosures centers	172
82.	*Loro Jonggrang*, principle terrace	172
83.	*Preah Ko*, inner ensemble, *Manduka Mandala* (top), *Paramashayika Mandala* (bottom)	174
84.	*Preah Ko*, principle and secondary terraces, indicating circular *Manduka Mandala*	174
85.	*Bakong*, fourth & fifth terrace with shrines and principle sanctuary indicating center points	176
86.	*Bakong*, major ensemble, indicating *Manduka Mandala* and *Paramashayika Mandala*	176
87.	*Bakong*, mount ensemble, indicating *Manduka Mandala* and *Paramashayika Mandala*	178
88.	*Bakong*, mount ensemble, indicating circular *Manduka Mandala*	178
89.	*Bakong*, falf, major ensemble, indicating circular *Manduka Mandala*	179
90.	*Bakheng*, fifth terrace and sanctuary plinth showing axis	180
91.	*Bakheng*, sanctuary ensemble, north-west quadrant	182
92.	*Bakheng*, cross-axial sanctuary plan indicating sixty-four and eighty-one *pada* grid	182
93.	*Bakheng*, sanctuary platform indicating sixty-four and eighty-one *pada* grid	183
94.	*Bakheng*, major ensemble, southern half indicating *Paramashayika Mandala* and *Manduka Mandala*	184
95.	*Bakheng*, major ensemble, southern half indicating circular *Manduka Mandala*	185
96.	*Ta Keo*, upper terrace indicating axes: upper (A), second (B) and lower (C) terraces	186
97.	*Ta Keo*, principle sanctuary, indicating sixty-four and eighty-one *pada* grid	188
98.	*Ta Keo*, northern half, indicating upper three terraces with *Manduka Mandala*	190
99.	*Prasat Hin Pimai*, complex plan	192
100.	*Prasat Hin Pimai*, sanctuary indicating sixty-four and eighty-one *pada* grid	194
101.	*Prasat Hin Pimai*, sanctuary indicating circular *Manduka Mandala*	194
102.	*Banteay Samre*, sanctuary, inner and outer enclosures indicating axes	196
103.	*Banteay Samre*, sanctuary indicating eighty-one and sixty-four *pada* grid	198
104.	*Banteay Samre*, half ensemble indicating circular *Manduka Mandala*	198
105.	*Baphuon*, indicating the thirty-three towers	200
106.	*Baphuon*, east-west entrance pavilions indicating interior colonnade and towers	202
107.	*Baphuon*, upper terraces with upper colonnaded gallery	202
108.	*Baphuon*, sanctuary and plinth indicating a *Manduka Mandala* and *Paramashayika Mandala*	203
109.	*Baphuon*, south-west quadrant indicating circular *Manduka Mandala*	204
110.	*Angkor Wat*, south-west quadrant, indicating terraces	206
111.	*Angkor Wat*, axes of various major architectural elements	208
112.	*Angkor Wat*, sanctuary ensemble indicating pillar arrangements and towers	210
113.	*Angkor Wat*, forecourt indicating pillar arrangements	210

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Figures (Continued)

Figure		page
114.	*Angkor Wat,* sanctuary ensemble indicating a *Manduka Mandala* and *Paramashayika Mandala*	211
115.	*Angkor Wat,* sanctuary ensemble indicating *a Manduka Mandala*	212
116`.	*Angkor Wat,* indicating circular *Manduka Mandala* centered on **B-B**[1]	213
117.	*Bayon,* suggested cruciform plan (sanctuary ensemble shown intact)	216
118.	*Bayon,* central ensemble indicating the towers	217
119.	*Bayon,* sanctuary indicating *shikharas* in a magic square arrangement	218
120	*Bayon,* indicating "memorial" chapels between outer and inner colonnaded enclosures	218
121.	*Bayon,* sanctuary indicating circular *Manduka Mandala*	220
122.	*Bayon,* indicating circular *Manduka Mandala*	220
123.	*Bayon,* inner enclosure and sanctuary ensemble indicating an *Upapitha Mandala* and the locations of the *shikharas*	221
124.	*Nat-Hlaung-Kyaung,* temple plan indicating sixty-four and eighty-one *pada* grid.	228
125.	*Nan-Hpaya,* sanctuary indicating eighty-one and sixty-four *pada* grid	230
126.	*Nan-Hpaya,* sanctuary indicating circular *Manduka Mandala*	232
127.	*Myin-Pya-Gu,* indicating sixty-four and three-hundred-sixty-one *pada* grid	234
128.	*Myin-Pya-Gu,* indicating circular *Manduka Mandala*	236
129.	*Shwe-Zigon,* layout with *gandhakuti*	238
130.	*Shwe-Zigon Pagoda,* indicating *Manduka Mandala* and *Paramashayika Mandala*	240
131.	*Shwe-Zigon Pagoda,* indicating circular *Manduka Mandala* over stupa	240
132.	*Shwe-Zigon Pagoda,* stupa with *gandhakuti* indicating *Asana Mandala*	241
133.	*Naga-Yon,* indicating circular *Manduka Mandala* over main block	244
134.	*Ananda,* vestibule hall detail	246
135.	*Ananda,* west half plan indicating *pradakshinapathas*	248
136.	*Ananda,* indicating sixty-four and eighty-one *pada* grid	249
137.	*Ananda,* indicating circular *Manduka Mandala*	250
138.	*Ananda,* indicating a *Deshiya Mandala*	251
139.	*That-Byin-Nyu,* ground floor (left) and mezzanine (right), plan indicating *p radakshinapathas.*	252
140.	*That-Byin-Nyu,* ground floor (left) and mezzanine (right) plan indicating *Manduka Mandala* (top) and *Paramashayika Mandala* (bottom).	254
141.	*That-Byin-Nyu,* ground floor (left) and mezzanine (right), plan indicating a circular *Manduka Mandala*	255
142.	*That-Byin-Nyu,* sanctuary indicating circular *Manduka Mandala*	256
143.	*Dhamma-Yan-Gyi,* detail, vestibule hall indicating location of the *Buddha* imagein south, west & north verstibules	258
144.	*Dhamma-Yan-Gyi,* main block, west half indicating *Manduka Mandala* (above) and *Paramashayika Mandala* (below)	260
145.	*Dhamma-Yan-Gyi,* indicating circular *Manduka Mandala*	261
146.	*Gawdaw-Palin,* indicating *Manduka Mandala* and *Paramashayika Mandala*	262
147.	*Gawdaw-Palin,* indicating circular *Manduka Mandala*	264
148.	*Myinkaba Kubyauk-Nge,* indicating *Manduka Mandala* and *Paramashyika Mandala* over central block	266
149.	*Myinkaba Kubyauk-Nge,* indicating circular *Manduka Mandala* over entire temple	268
150.	*Myinkaba Kubyauk-Nge,* indicating circular *Manduka Mandala* over north-south porches.	269

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Figures (Continued)

Figure		page
151.	*Bogyoke-Mi Kubyauk,* indicating circular *Manduka Mandala* over the whole	270
152.	*Bogyoke-Mi Kubyauk,* indicating circular *Manduka Mandala* centered on the porch axes and including the western section	272
153.	*Dhamma-Yazika,* indicating circular *Manduka Mandala*	276
154.	*Dhamma-Yazika, gandhakuti* indicating *Manduka Mandala* and *Paramashayika Mandala*	276
155.	*Dhamma-Yazika, gandhakuti* indicating circular *Manduka Mandala*	277
156.	*Mingala-zeidi,* indicating *Manduka Mandala* and *Paramashayika Mandala*	278
157.	*Mingala-zeidi,* indicating circular *Manduka Mandala*	280
158.	Pentagonal Temple (*Pancha-Buddhas*), indicating circular *Manduka Mandala* and pentagon	282
159.	*Paya-Thon-Zu* western shrine *grabh-griha* indicating sixty-four and eighty-one *pada* grid.	284
160.	*Paya-Thon-Zu* western shrine indicating circular *Manduka Mandala*	286
161.	*Chedi Wat Kukut,* indicating a *Manduka Mandala* and a *Paramashayika Mandla.*	292
162.	*Chedi Wat Kukut,* upper terracewith *chedi,* indicating a circular *Manduka Mandala.*	294
163.	*Chedi Wat Kukut,* indicating a nine and forty-nine *pada* grid applied to level one	294
164.	*Chedi Wat Chang Lom,* indicating sixty-four and eighty-one pada grid.	296
165.	*Chedi Wat Chang Lom,* indicating a circular *Manduka Mandala).*	298
166.	*Chedi Wat Chang Lom,* first and second terraces with *chedi* indicating a *Sthaniya Mandala*	298
167.	*Chedi Wat Chang Lom,* upper terrace with *chedi* indicating a *Sthaniya Mandala*	299
168.	*Chedi Wat Chang Lom,* upper terrace with *chedi* indicating a *Manduka Mandala* and *Paramashayika Mandala.*	299
169.	*Wat Phra Chao Phanan Choeng, wiharn* indicating sixty-four and eighty-one *pada* grid	300
170.	*Wat Phra Chao Phanan Choeng, wiharn* indicating circular *Manduka Mandala*	302
171.	lotus bud finials of Pagan (Mon) style (left), and Sukhothai style (right)	304
172.	*Wat Mahathat, chedi* ensemble indicating cross-axial solution	306
173.	*Wat Mahathat, chedi* ensemble with *Manduka Mandala* and *Paramashayika Mandala.*	306
174.	*Wat Mahathat, chedi* ensemble, indicating circular *Manduka Mandala*	308
175.	*Wat Mahathat, chedi* ensemble with *Sthandila Mandala*	309
176.	*Wat Phra Si Rattana Mahathat,* east entrance gateway	310
177.	*Wat Phra Si Rattana Mahathat,* placement of the *prang* ensemble	312
178.	*Wat Phra Si Rattana Mahathat,* upper two terraces with *Sthaniya Mandala*	312
179.	*Wat Phra Si Rattana Mahathat,* upper two terraces with circular *Manduka Mandala*	313
180.	*Wat Phra Si Rattana Mahathat,* shrine ensemble with sixty-four & eighty-one *pada* grid.	313
181.	*Wat Phra Ram,* placement of the *prang* ensemble	314
182.	*Wat Phra Ram,* the *prang* & shrines' platform	316
183.	*Wat Phra Ram,* central ensemble indicating sixty-four and eighty-one *pada* grid	316
184.	*Wat Phra Ram,* central ensemble indicating a circular *Manduka Mandala*	317
185.	*Wat Phra Ram,* central ensemble indicating a *Padmagarbha Mandala*	317
186.	*Wat Ratchaburana,* placement of the *prang* ensemble	318
187.	*Wat Ratchaburana,* central ensemble indicating sixty-four *pada* grid and eighty-one *pada* grid.	320

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Figures (Concluded)

Figure		page
188.	*Wat Ratchaburana,* central ensemble, indicating circular *Manduka Mandala*	321
189.	placement of the towers at *Mahabodhi,* Bodh-Gaya (left) and *Mahabodhi,* Pagan (right)	322
190.	*Wat Chedi Chet Yot,* roof plan, indicating placements of *chedis*	324
191.	*Wat Chedi Chet Yot, chedi* block indicating circular *Manduka Mandala*	324
192.	*Wat Phu Khao Thong, buddhawat* plan.	330
193.	*Chedi Wat Phu Khao Thong,* indicating circular *Manduka Mandala*	332
194.	*Chedi Wat Phu Khao Thong,* indicating sixty-four and eighty-one *pada* grid	333
195.	*Wat Chai Watthanaram, wat* ensemble indicating cross axes	334
196.	*Wat Chai Watthanaram,* indicating *Manduka Mandala* and *Paramashayika Mandala*	336
197.	*Wat Chai Watthanaram,* indicating circular *Manduka Mandala*	337
198.	*Wat Phra Chetuphon Wimonmangkhalaram* (*Wat Phra Chetuphon*), plan, *ubosot* ensemble with encircling *chedis* indicating circular *Manduka Mandala*	340
199.	*Lohaprasad,* vault plan, fifth storey	344
200.	*Lohaprasad,* plan of third through fifth storey	346
201.	*Lohaprasad,* twenty-five & two-hundred-twenty-five *pada* grid(storeys 1 & 2)	346
202.	*Lohaprasad,* half plan indicating circular *Manduka Mandala*	347
203.	*Pho-hai,* shrine indicating *Manduka Mandala* and *Paramashayika Mandala.*	352
204.	*Khüông-my Shrine,* indicating *Manduka Mandala* and *Paramashayika Mandala.*	354
205.	*Dóng-Düông,* western entrance pavilion	356
206.	*Bai Ma Si,* Luoyong, China (68 CE, reconstructed 1559 CE)	358
207.	*Masjid Tranquerah,* arrangement	362
208.	*Masjid Tranquerah,* indicating *Manduka Mandala* and *Paramashayika Mandala.*	364
209.	*Masjid Tranquerah,* indicating *Upapitha Mandala*	365
210.	*Masjid Kampung Laut,* indicating *Manduka Mandala* and *Paramashayika Mandala.*	366
211.	*Masjid Kampung Laut,* indicating *Upapitha Mandala*	366
212.	*Masjid Kampung Kling,* indicating *Manduka Mandala* and *Paramashayika Mandala.*	368
213.	*Masjid Kampung Kling,* indicating *Upapitha Mandala*	368
214.	*Masjid Kampung Hulu,* indicating *Manduka Mandala* and *Paramashayika Mandala.*	370
215.	*Masjid Kampung Hulu,* indicating *Upapitha Mandala*	370
216.	after hexagonal *Tomb Tower,* Demavand, Iran (upper), and the *Gunbad-i-Kabus,* Gurgan, Iran (lower)	400
217.	Svastika Village plan	403
218.	*That Luang:* twenty-eight *stupika* (left) and thirty-two *stupika* (right)	556
219.	*That Luang:* thirty *stupikas* compressed arrangement	556
220.	*That Luang:* an alternate thirty *stupika* arrangement	560
221.	*That Luang:* the *anda* form, based upon a square	560
222.	*That Luang:* the encrouchment of the *stupikas* into the *anda*	560
223.	*That Luang:* plan detail of the encrouchment of a *stupika* into the *anda*	561
224.	*That Luang:* section detail of the encrouchment of a *stupika* into the *anda*	561

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Abbreviations

The following abbreviations are identifying initials of the sources which were consulted in this study. They appear either in parentheses or within the footnotes, where applicable. Full bibliographic information is to be found in the Bibliography.

AB Alice Boner and Sadasiva Rathsarma. *Silpa Prakasa Medieval Orissan Sanskrit Text on Temple Architecture.*

AG Anagarika Govinda (Lama), *Psychocosmic Symbolism of the Buddhist Stupa.*

AK Arnar Nath Khanna, *Archaeology of India.*

AP Ariswara, *Prambanan.*

AS A. Snodgrass, *The Symbolism of the Stupa.*

BD Bruno Dagens (trans.), *Mayamatam: Treatise of Housing, Architecture and Iconography.*

BG B. P. Groslier and J. Arthaud, *The Arts and Civilization of Angkor.*

BG II B. P. Groslier, *The Art of Indochina: Including Thailand, Vietnam, Laos and Cambodia.*

BO Blanche Christine Olschak, *Mystic Art of Ancient Tibet.*

CA Clarence Aasen, *Architecture of Siam.*

CD CorneliaDimmitt and J.A.B. van Buitenen, *Classical Hindu Mythology: A Reader in Sanskrit Puranas.*

CM Carol Stratton and Miriam McNair Scott, *The Art of Sukhothai: Thailand's Golden Age.*

CRB The Committee for the Rattanakosin Bicentennial Celebration. *The Sights of Rattanakosin.*

CS C. Sivaramamurti. *Le Stupa de Barobudur.*

DJ David and Janice Jackson, *Tibetan Thangka Painting: Methods & Materials.*

DL Detlef Ingo Lauf, *Tibetan Sacred Art: The Heritage of Tantra.*

DR Prince Damrong Rajanubhab, *Monuments of Buddha in Siam.*

DW David K. Wyatt, *Thailand: a Short History.*

FWB Fredrick W. Bunce, *An Encyclopaedia of Buddhist Deities, Demigods, Godlings, Saints and Demons: With Special Focus on Iconographic Attributes.*

GC George Coedès, *The Indianized States of Southeast Asia.*

HBS H. B. Sarkar, *Some Contributions of India to the Ancient Civilization of Indonesia and Malaysia.*

HM H. Marchal, *L'Architecture comparée dans l'Inde et l'Extreme-Orient.*

HS Henri Stierlin, *Architecture of the World: India.*

HS I _____, *Architecture of the World:- Islamic India. Lausanne.*

JA Jeannine Auboyer, et al, *Oriental Art: A Handbook of Styles and Forms.*

JB J. Boisselier, Le Cambodge, *Manuel d'archéologie d'Extreme-Orient, Asie du Sud est.*

JB I _____, *The Heritage of Thai Sculpture.*

JD Jacques Dumarçay, *The Site of Angkor.*

JD I _____, *Borobudur.*

JDII _____ & Michael Smithies, *Cultural Sites of Burma, Thailand, and Cambodia.*

JF James Fergusson, et al. *History of Indian and Eastern Architecture.*

JL John D. La Plante, *Asian Art.*

JM John Miksic, Borobudur: *Golden Tales of the Buddhas.*

KD Krishna Deva, *Temples of India.*

KM K. I. Matics, *A History of Wat Phra Chetuphon and Its Buddha Images.*

KV Kapila Vatsyayan, *The Square and the Circle of the Indian Arts.*

KW Kenneth E. Wells, *Thai Buddhism: Its Rites and Activities.*

LY Lim Jee Yuan. *The Malay House: Rediscovering Malaysia's Indigenous Shelter System.*

MB Mario Bussagli, *Oriental Architecture I: India, Indonesia, Indochina.*

MD M. C. Subhadradis Diskul, *Art in Thailand: A Brief History.*

MR Marilyn Rhie and Robert A. Thurman, *Wisdom and Compassion: The Sacred Art of Tibet.*

PA Parmono Atmadi, *Some Architectural Design Principles of Temples in Java.*

PKA P. K. Acharya, *Architecture of Manasara.*

PP Pratapaditya Pal, *Tibetan Paintings: A Study of Tibetan Thankas Eleventhto Ninteenth Centuries.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Abbreviations (Concluded)

PR Philip Rawson, *The Art of Southeast Asia.*
PR I _____. *The Art of Tantra.*
PRP Phra Rajawaramuni (Prayuth Payuthoto), *A Brief Dictionary of Buddhist Dharma.*
PS Paul Strachan, *Imperial Pagan: Art and Architecture of Burma.*
RB Raja Bahrin Shah bin Raja Ahmad Shah, *The Terengganu Timber Malay House.*
RS Rong Syamananda, *A History of Thailand.*
SB Silpa Bhirasri, *Thai Buddhist Art (Architecture).*
SBa Stephen Batchelor, *The Tibet Guide.*
SH Swami Harshananda, *Hindu Gods and Goddesses.*
SH I _____. *All about Hindu Temples.*
SI Sonthiwan Intralib, *An Outline of the History of Religious Architecture in Thailand.*
SK Stella Kramrisch, *The Hindu Temple.*
SL Santi Leksukhum, *The Redented Added-Angled Chedis and the Rabbeted-Angled Chedis of the Ayutthaya Period.*
SM *Sri Maha Mariamman Temple Dhevasthanam, Batu Caves Consecration Ceremony: 1891-1991 Centenary Celebration.*
SV Steve Van Beek and Luca Invernizzi Tettoni, *The Arts of Thailand.*
TB Theos Bernard, *Hindu Philosophy.*
TC Thomas Crump, *The Anthropology of Numbers.*
TR *T.A. Gopinatha Rao, Elements of Hindu Iconography.*
VP Venerable Phra Debgunabhorn, *A History of Wat Srakesa Rajavaramahavihara.*
VT Vientiane Times, Symbol of the Nation.
WF Willy H. Fischle, *The Way to the Center: Symbols of Transformation in Tibetan Thankas.*
WM W.S. Morgan, *Kisah Tanah Melayu.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Introduction: Architectural Iconography

The Basis of Form:
Orientation
Basic Geometric Forms
Axiality
Cross-Axiality
Construction Methods and Materials
Ratios, Relationships and Rules:

Philosophic and Theological Foundations

Numerology

Astrology/Astronomy

Additional Iconic Concerns:
Non-Congregational
The High Place
The Cave
The Stupa

The Mandala:
Magic Squares Mandalas
Vastu-purusha Mandala
Manduka Mandala
Paramashayika Mandala
Manduka Mandala, Circular
Vajrayana Mandala
Vajradhatu Mandala
Stupa, Symbolism and Numerology
Gyantse Kumbum, Gyantse, Tibet
Garbha-Griha Plan
Ancillary Shrine Plan
Temple Plan

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Architectural Iconography

Iconography

Within man's cultural development, there seems to be icons of a universal nature which transcend the individual cultures and/or civilizations and bind humankind together. Architectural archetypes, arch-symbols in a Jungian tradition are to be found across the surface of the earth. This fact is accepted. How or by what means the various cultures arrive or explain these icons aid us in better understanding of the various peoples.

"From the beginning of time man has used symbols, or iconography (to explain, or explicate, or to embellish their endeavors and/or their beliefs). These symbols have occurred in the production of specialized artistic endeavors as well as in common, every day objects. These icons are a (very) specialized form of communication.

"The use of iconography can be and frequently is both evocative and invocative. It may be employed for the simplest, even basest reasons as well a for the highest of selfless motives. It has been used for personal enrichment, to call down the gods, to commune with the deity, to importune favorable conditions, and as an offering, a gift. Iconography offers up a rich panoply of things known and unknown, spoken and unspoken, seen and unseen.

"From the simplest, yet eloquent drawings found on the walls of prehistoric caves, through the sophistication of Egyptian imagery; the richness of a *St. Sernin*; the spiritually overwhelming forms of a *Borobudur* or a Tabriz mosque; the sculptural embroidered wealth of a Khajuraho or a Mayan Temple; the secluded, incensed layers of a *Vajrayana* lamasery or a Benin royal compound; the convoluted elegance of a Mannerist painting--all interweave iconographic imagery inextricably into their very core. Without the visual/didactic richness, without the overlay of vital symbols, all these productions of man would be a mere shell--a hollow vanity. Iconography provides the organs and muscles for the cultural skeleton and the skin of civilization.

"The fact that symbols are most frequently employed within a religious context is not lost. Iconography is not only used as a paean to the 'All Mighty,' but, becomes the motive force of the deity amongst the people. Every civilization, every people mirror this cultural necessity.

"As a culture develops, its iconography grows and/or changes concurrently. It expands in number, volume, variety as the cultural agar fosters and nurtures the need for an increasingly complex accumulation of imagery. In some instances, the iconic form(s) may be abandoned in favor of another--e.g., Islam eschewed the representation of things human in favor of the development of wonderfully complex geometric permutations. Further, a symbol may mutate into a far different, but related meaning and/or use----e.g., the extension of the middle finger, upwards, from a clenched fist was a perfectly acceptable iconic gesture in Christian Rome, and, until the recent past. But, nowadays it has become a socially unacceptable visual argot. Further still, a group may appropriate as image as a badge of identification for their own use--e.g., the *ankh* of ancient Egypt had been used during the 1950's-1970's by the "hippies" as an identifying mark separated from the original meaning. Or, yet, still further, an image may have potent and important religious/philosophic meanings for one group and be considered *de rigueur* or even obscene by another--e.g., the representations of certain deities in *yab-yum* (Tib.; Indic: *yuganaddha*) is not only acceptable, but theologically sound to *Vajrayana Buddhism* and considered perversely obscene by many of the West. Finally, the most unlikely of groups may employ or develop entirely new sets of symbols, possibly unconscious of their participation in the ancient dance of iconic representation--e.g., the caps of Los Angeles street gangs, the angle, the direction of the bill, the color, etc. becomes a newly created iconic badge.

"During viable cultural growth, refinement takes place in all realms of the culture. As a people become increasingly refined within the particular and/or peculiar cultural/ethnic base, as they refine

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Iconography (Concluded)

themselves, the dictum "the survival of the fittest" applies also to iconography. Symbols are refined, cloned, mutated, multiply into more pertinent representations, often becoming overwhelmingly complex and esoteric--understood by man, and, in some cases only by the initiated few.

"Nowadays, there seems to be a rampant philosophy, a mass cultural imperative that the production of man must be refined to its simplest, easily knowable form. This denigration of what one might assume to be the hallmarks of an icon, that is "miracle, mystery and authority"[1] tends to foster or be fostered by cultures which in some cases may be more egalitarian. It appears also that this development, this egalitarianism spawns cultures where there is a passion to know the unknown, to be able to prove or find solutions to all things. This need tends to create a paucity and an abhorrence of things unknown, of things unprovable, a lack of faith in all but the scientific processes. To eschew miracle, mystery and their hand-maiden, iconography, dilutes the worth of this or any culture, absolutely. Iconography provides richness and in many instances unplumbed depths. It is that which sets apart, in the finest sense, that which individualizes, that which coalesces.

"Buddhism and Hinduism, two of the worlds oldest sustained faiths have, over the millennia developed an iconic language that is both precise--minutely defining-- and beautifully complex-allowing interpretations of geometric proportions. Certainly, for those of us in the West for whom either of these two faiths are not our 'mother faiths,' the confusion may be mentally pandemic. The magnificent, the divine paradox! From this paradox springs the need to know, to understand, hence, the need to develop an iconic map--a Buddhist/Hindu *Iconologia*."[2]

It is asserted that the very plans employed in the Buddic and Hindic temples and monuments of India and the Indianized States of Southeast Asia are iconic in their form and dimensions. The arcane knowledge possessed and wielded by the priest-architect, the *sthapati*, was an iconic reservoir which demanded utilization. The *Manasara* and *Mayamata* were not mere "pattern books," but possessed tried and tested proportions which had cosmological significance. The very consideration of building a temple required procedures which were, at the very least, complex; procedures which were steeped in symbolism. At the core was the *mandala*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Basis of Form

Orientation

The methods in arriving at the orientation of the temple structures, particularly the Hindu temples, involves various mathematical computations which involves astrological, geographical, caste and numerological considerations. These computations are rather complex and require a priest/architect (Indic: *sthapati*) to arrive at the most auspicious orientation.

The orientation of the main façade or entrance of both Buddhist and Hindu temples is of importance. With few exceptions, the preferred orientation is east to west--the entrance being in the east and the sanctuary (Indic: *garbha-griha*) in the west. Also acceptable, but less auspicious, is the west to east orientation. To gain access to the divinity, one must metaphorically travel from the male principle to the female entity; from the sun, day, light, seed (Indic: *bija*) and the idea, to the moon, night, darkness, the ovum (Indic: *anda*) and the power or energy--i.e., the womb.

This orientation is, generally opposite to the orientation of Christian, liturgical churches which are west to east. Symbolically, one travels from sin and darkness towards salvation and light--the altar being in the east end of the church. The connotation, of course is from female to male. One must understand the patristic doctrine. It was taught that Eve introduced sin in the Garden of Eden by accepting the forbidden fruit and subverted Adam. Therefore, woman is the source of sin[3] and one must eschew sin (woman, the west, darkness) and travels towards the male-light principle, the east.

Within the Hindu tradition, the orientation of a temple is the last in a series of computations that must be followed assiduously. There are six sets of magic oriented computations that are followed to establish the proportions and the day that construction may commence--i.e., the width, length, and zodiacal considerations for commencement, circumference and the day of the week for commencement, circumference and the lunar day for the commencement and orientation. However, before the final calculation may be made regarding the temple's orientation, the proportions must be further tested to determine the caste of the builder or patron. Then the length of time that the temple is to stand is calculated. If all computations are favorable and accurate then the final orientation calculation is to be made. If the orientation is east (preferable) or west (not preferable, but acceptable) then the construction of the temple may commence. Any other orientation is unacceptable.

The variations, particularly Buddhic, are generally to be found in Thailand. Certainly major *wats* are generally oriented east to west,[4] but there tends to be an additional cultural-regional imperative as well--i.e., a temple faces water, whether a natural lake, or river or an artificial source, as a pond, tank or *baray*. In a purely symbolic form water is important. Within Thai Buddhist architectural decorative elements there predominates the air symbol (Indic: *garuda*; Thai: *cho-fa*) and its opposite the water symbol (Indic: *naga*). Generally, water refers to the vital fluid and the serpent is recognized as a male symbol--a curious state-of-affairs. But, then one must recognize that Buddhism, like Hinduism, is not an exclusive religion, rather it is an inclusive faith, accepting into its bosom all types of variations, even the beliefs and practices of other faiths. In addition, a practice and/or theory states that the preferred placement of a community is adjacent to a constant supply of water and on land that is fertile (Indic: *anupa*).[5] This practice has doubtlessly influenced the placement of pools or tanks. Also, there are a number of temples in and around Pagan, that did not strictly follow the east to west orientation. It may be due to the supposition that the construction of these temples for merit was of greater importance than the cosmological alignment.[6] Additionally, the Irrawaddy takes a number of turns around Pagan and if water orientation was as important there as in Thailand, the various placements would make sense.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Basic Geometric Forms

The Square

The square and the circle are two forms which assume major significance in the architecture of both the Buddhists and Hindus. Both of these forms are repeated in numerous structures and hold for these faiths certain iconic meanings as does the cruciform plan for the Christian cathedral.

The square with its four equal sides and four equal angles becomes the standard, the preferred form for Hindu/Indian architecture. It symbolizes order, unequivocal form, the male, the celestial sphere and The Absolute. Shrines, particularly the sanctuary or *garbha-griha* (See: **Appendix A, Plates 90, 94, 95 & 99**) are generally square in shape or in the case of later developments--e.g., the *triratha* and *pancharatha* (See: **Figure 14**--are derived from or based upon the square. Even secular structures are often based on this shape--e.g., the *Garden Pavilion, Kotilal Fort*, Delhi (See: **Plate 27**) ; the *House of Raja Birbal*, Fathepur Sikri; and the *Feria Bagh*, near Ahamdnagar.

The square is unequivocal, constant--a square is a square. Its shape is always the same though its dimensions may be large or small. It is unlike the rectangle whose shape may vary.

It is of interest to note that the square with its *four* equal sides and *four* equal angles--four being a feminine number--is considered to be a masculine form to the Hindus. It is assigned to the celestial sphere (Indic: *loka*) and represents The Absolute (See: **Appendix A, Plate 93**).

The Circle

The circle, on the other hand, represents movement and, therefore, time. To the Hindu, movement and time were equivocal and, therefore, represented the terrestrial sphere. Furthermore, the circle was a female form (utero) even though it is assigned the masculine number--one.

Within the Buddhist tradition, the circle becomes the symbol of the celestial and the square is earthbound. The circle is manifest in the *stupa* form--the preeminent Buddhist symbol (icon). It is to be seen in the inner areas of the *Mahayana* and *Vajrayana mandalas* (See: **Plates 6 & 7**), and in the sanctuary of the Buddhist *Bayon* of Angkor fame (See: **Plate 51**). Even *Borobudur* utilizes the circle in the most important levels of that impressive shrine (See: **Plates 28-31**).

To say that the Hindu faith does not utilize the circle whatsoever is false. The *Subrahmanya Temple* Manjeri (See: **Plate 21**) is enclosed within a circle[7] -- even the *garbha-griha* of the *Brahmeshvara Temple* (See: **Plate 25**) falls within a circle on numerous points as to nearly appear circular. In other instances, a square is rotated, creating a circular direction (See: **Plate 20**; **Appendix A, Plates 97 & 98**). Likewise, numerous Buddhist temples of major importance utilize the square--e.g., *Chandi Sewu*, Prambanan (See: **Plates 33 & 34**) , or *Wat Kaew*, Chaiya (See: **Appendix I, Plates 142**).

Finally, within Buddhist architectural symbolism, the circle is rotated on its axes and the sphere results. The sphere, or more accurately, the hemisphere, is the most important recognizable form of the *stupa*. Its use in theses monuments assumes not only celestial connotations, *en plan*--i.e., the circle--but also the terrestrial world in the implied lower hemisphere which is enclosed by the base.

It must be noted, that for whatever reason, the square and the circle were not the preferred shapes in European architecture, even in the earliest times.[8] The exceptions tended to be in smaller or peripheral ecclesiastical structures such as baptisteries and campaniles.

The square and the circle are the basis for other practices such as the theater as well as the plastic arts. The square, with it potential to include competing elements, when enclosing a circle represents the dimensions of both space and time.[9]

The Rectangle

The rectangle, although not the most unstable form, is the most transient, the most variable. Transient in that unlike the circle, the square or the equilateral: triangle, pentagon, hexagon and octagon, it may vary in an infinite number of dimensions in either or both width and/or height, yet the four angles remain constant. The circle and the square are, by their very makeup, constant, the rectangle is not. The

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Hindu envisioned the square as a manifestation of The Absolute, and the Buddhists instilled the same quality in the circle.

Although the West recognized the immutable, constant quality in the square and the circle, they preferred the variable rectangle. Whether in the design of an ecclesiastical structures or a temporal edifices, the rectangle is seen to predominate in European architecture.

The use of the rectangle is not totally absent in the elemental design of Buddic or Hindic plans. Frequently, secondary structures--e.g., the Khmer "libraries" and the Buddhic monasteries--are rectangular. The "*chaitya* halls" are the major exception as a group, being based essentially upon the rectangle. The mount ensemble of *Chandi Djago* (See: **Plate 36**), Malang, Java, is rectangular, although the sanctuary is based upon the square. Also, within Java, two other important structures are based upon the rectangle--i.e., the *Chandi Sari* (See: **Plate 36**) and the *Chandi Plaosan Lor* (See: **Appendix A, Plates 114-115**).

The *Chandi Sari*, although based upon a rectangle, possesses a design that is associated with important numerological implications. In addition, its axiality places it firmly within the parameters of temple architecture of the region.

Axiality

The axiality of a structure's plan, i.e., the symmetrical arrangement of the elements of a plan along a given axis (See: **Glossary, Plate 170**)--is not a novelty to the Buddic or Hindic structures of India or Southeast Asia. Indeed, throughout the history of mankind, there appears to be an overwhelming predilection towards axiality. There are, of course, notable exceptions: 1) non-ecclesiastical structures, particularly fortified complexes which follow readily defendable landforms as one finds in the *Red Fort* at Agra; 2) edifices to which additions are made over a period of many years as one finds in the *Chandi Panataran* ensemble at Kediri; and 3) buildings which have been designed and constructed in the modern period--i.e., since 1900 CE--as one finds in Le Corbousier's chapel at Ronchamp.

However, again with the exception of the modern period, virtually all religious structures devoted to worship have been axial. A temple which is axial, *en plan*, is seen to be balanced. That balance or symmetry mirrors the perceived symmetry, immutability and power of The Absolute and/or the cosmos. It is of interest to note that whereas numerous ecclesiastical monuments of the modern era are not axial, not symmetrical, virtually all governmental buildings, particularly in the Unites States, are axial. One would assume that the government's aim is to give the *impression* of symmetry, immutability and power!

Within India and the Indianized States of Southeast Asia, axiality is a given. No Buddic or Hindic structure is conceived outside this rubric. Certainly, there are numerous temple complexes which have developed along non-axial lines--e.g., the *Brihadeshvara Temple* ensemble at Tanjore, or the *Temple of Shiva and Minakshi* at Madura. However, these eclectic ensembles had been constructed over a long period of time and by various rulers who wanted to leave their mark.

Yet in such temples as: the *Ladh Khan*, Aihole; the *Tivanka Pilimage*, Polonnaruwa; the *Banteay Samre*, Angkor; the *Gawdaw-Palin*, Pagan; the *Chedi Wat Phu Khao Thong*, Ayutthaya; and/or the *Dong-Düöng* Monastery, axiality reigns. It is the guiding principle in the architecture of India and the Indianized States of Southeast Asia.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Cross-Axiality

When perusing the multitude of temple plans associated with the numerous cultures throughout the centuries, one becomes aware of a recurrent form that appears to predominate the plans of India's Buddhic and Hindic structures--cross-axiality. This is manifested in either the use of the circle or the square as the genesis of the plan. To say that the use of the circle or the square is a unique design element to this area is, of course, untrue. There are a number of cross-axial structures that appear in other cultures, other religious milieu.

The use of cross-axiality--i.e., the symmetrical arrangement of the elements of a plan along perpendicular axes either precisely duplicating each quadrant in the others, or mirroring the quadrants (See: **Glossary, Plates 171 & 172**)--is a relatively scarce phenomenon outside India and the Indianized States. The major exceptions outside the region, and in particular in the West, tends to be monument architecture--e.g., the *Arch of Constantine*, Rome; *Trafalgar Square*, London; or Saarinen's Arch in St. Louis. The Pyramids of Egypt and the *Altar of Heaven* as well as the *Qinian Dian* of the *Temple of Heaven*, Beijing, related to religious practices may also be considered as monuments. Numerous structures in the West give the impression of being cross-axial, but are, in actuality, axial--e.g., the *Parthenon*, Athens; The *Baptistry* of the Cathedral at Pisa; or the *Jefferson Memorial*, Washington, D.C.

However, within the Buddic and Hindic monuments of India and the Indianized States, one finds numerous examples of true cross-axiality. The employment of cross-axiality is manifested in both major and minor works--e.g., *Stupa I*, Sanchi; the *Ruvanveli Dagoba*, Anuradhapura; *Borobudur*, Java; the *Baphuon*, Angkor; the *Ananda*, Pagan; and the central ensemble of *Wat Chai Watthanaram*, Ayutthaya, to name a few. The Islamic *Masjid Kampung Laut*, Terengganu, is also cross-axial.

Can this apparent predilection towards cross-axiality be seen as simply a corporeal manifestation of The Absolute--the celestial sphere to the Buddhists in the form of a circle or to the Hindu in the form of a square? Could they be referents to a more elemental theological idea?

Certainly the parameters of these two faiths--e.g., passivity, inclusiveness, etc.--denote a philosophic and theological centering by which one may approach and/or accept The Absolute from number of different directions, all with equanimity. Approaching and/or accepting The Divine while still retaining structures or elements of other beliefs is unique to these belief systems. On the other hand, Christian and Islamic theology and philosophy view the approach to The Deity as a journey--i.e., from point "A" to point "B;" from being an unbeliever to being a believer; from rejecting the old to acceptance of the new; from darkness to light. This would seem to imply a linear or directional movement and finds it theological/philosophical geometric manifestation in the rectangle. The vast majority of Christian churches are rectangular and axial. One literally and figuratively journeys from the entrance, down the length of the nave to the altar.

A structure need not be either square or round to be cross-axial. The "*Libraries*" of *Angkor Wat*, Angkor, are cross-axial--i.e., mirror cross-axial. However, the circle and/or the square tend to be the forms most frequently found to be cross-axial. The circle and the square are the two forms seen to represent The Absolute in both Buddhism and Hinduism, respectively.

In both instances--i.e., axiality and cross-axiality--underline The Absolute. The cross-axial structure my be seen to underline this iconic element and emphasize its employment as well as pointing to a more fundamental iconography.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Construction Methods and Materials

The building methods and the materials used within the region under consideration varies little from other areas of the world, with the exception of the subtractive, monolithic structures of India. The enclosing of relatively small spaces required by the two religious faiths did not necessitate complex engineering feats that large unencumbered spaces demanded. It may be these engineering accomplishments--e.g., those evidenced within the Gothic period--which many feel are confirmation of cultural and/or aesthetic greatness or even superiority.[10]

The trabeated system or post and lintel was the predominant structural system utilized within South and Southeast Asia.[11] That is not to say the arcuated system was unknown or had not been developed. Pagan utilized the arcuated system, particularly in the later periods but not to the dimensions employed by the Islamic Near-East. There are numerous temples in Thailand in which corbel arches and vaults are found.[12] However, the trabeated system appears to be regionally, aesthetically and symbolically preferred.[13] In addition, there were areas in which suitable building stone was not readily available nor in the required quality. Therefore, brick was the suitable media, and large vaulted spaces were not easily spanned with brick. It may be postulated that since the divine duality of male and female which was manifested in so much of Buddhist and Hindu symbolism may have been further evidenced in the use of post and lintel. Certainly, the free standing post in the form of a memorial pillar had achieved widespread and iconic significance in India as a male symbol (*linga*). It is not only iconic in a formal manner, but also as a representation of the number one (1), male.

Another formal divergence from most western architecture is the use of walls of considerable thickness. This may be related to the concept of the cave, a dark inner place preferred by a number of the culture of the area.[14] Another consideration is purely climatic--thick masonry walls tend to make the interiors cooler during the heat of the midday and warmer during the sometime cooler nights. This is known as the flywheel effect and has become an important consideration in present day ecological considerations. Yet, another explanation lies in a structural imperative--structures which possess rather tall, solid superstructures that are normally found in the Buddhist and Hindu temples require substantial walls to carry the weight. Since buttresses, as used during the Romanesque and Gothic Western periods, were not employed, the thick brick masonry walls or solid masses became an imperative. An aside and a *nota curiosa*: it is fired brick that was utilized extensively--this may have created certain logistic and certainly ecological problems. The amount of wood required to fire such vast quantity of brick that were needed in Pagan, for example, would have to have been monumental.[15]

The preferred building material in India, Sri Lanka, Java and the Khmer Empire tended to be stone. If brick was utilized, it was generally for the inner core, the surface would have been faced with stone or stucco. By-and-large in Myanmar, Thailand and Malaysia brick and stucco predominates. Whether by tradition, geographic location or other factors, the extensive use of brick and stucco is somewhat curious. Certainly the cultures and empires that bracketed Myanmar, Thailand and Malaysia were familiar with and used stone in many of their major monuments and were adept in its manipulation. These three areas were not isolated. There was a great deal of commerce and trade within the region--e.g., the Pagan empire as well as the kingdoms of Thailand had open and important contact with Sri Lanka and India; Thailand holds a number of fine stone monuments built under Khmer domination; the former Sultanates of Malaysia (Malaya), likewise were active in trade with Java, India and, further, the ancient Sultanate of Malacca had close ties with China as did Thailand (Siam). Pagan was situated on rather low, relatively flat land, as were the Kingdoms of Sukhothai and Ayutthaya, yet there were sources of stone available in areas that were not too distant. They--i.e., Kingdoms of Sukhothai and Ayutthaya--are nearly parallel in their geographical milieu with that of the great Angkor of the Khmer Empire. Why then the difference?

Perhaps, the act of "merit" important in the *Theravadist* Pagan and the Thai Kingdoms may have had some influence in choosing a material. Merit was and is an individual and personal act that requires individual and personal attention. It is nontransferable. From the lowliest peasant to the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

supreme monarch, merit was performed in accordance with their economic and physical ability. From the bringing of fresh flowers to decorate and/or to offer an image to the construction of an edifice to house that image were acts of merit. Each may have had equal import, depending on ones economic ability and station in life.

Therefore, the construction of a temple as an act of merit, by necessity, needed to have been completed within a relatively short span of time, certainly within one's lifetime. An adequate labor pool was required--a labor pool that did not necessarily require remuneration for their services as the offering of one's time and energy in the construction of a religious edifice was itself an act of merit. Some of the structures of Pagan were raised in remarkably short periods of time. That, of course, depended upon material that was readily available in sufficient quantity and somewhat less costly than stone which by its very nature required time to quarry, form, dress and finish.

In addition, the concept or idea of permanence is somewhat different, less important within the *Theravadist* kingdoms, doubtless due to the quality of merit, thereby making brick and stucco an acceptable, even a preferred material to the more permanent stone. Certainly locale and climatic conditions played a part--e.g., it was to the advantage of the builders of Pagan that kingdom was located in a relatively arid region and to the disadvantage of the Ayutthaya builders where rainfall is plentiful. In the *Mahayana* Buddhist and Hindu kingdoms--such as the Shailendra or the Khmer--permanence was to some degree a consideration, and particularly where the concept of the *devaraj* flourished.

Finally, the construction techniques--i.e., post and lintel, and corbeled arcuated, plus the concept of the *stupa* or temple mount--required sheer mass of material. The weight of great masses, particularly with the employment of smaller building units (easily portable stone blocks and/or bricks) made the structures inherently less stable. In the case of *Borobudur* which was raised upon a natural promontory, one would assume that a single building unit would be able to support the vertical force of the mass above and remain stable. But such a structure also exerts lateral force which was recognized early on in the construction process, hence the employment of the reinforcing terrace (See: **Plate 29**). The Khmers also recognized this phenomena and employed wedge-shaped blocks to stabilize the mass of stone in their temple mounts. The use of easily transported building units created another structural concern that had regional implications. The viability of many of these structures was exacerbated by the ecological milieu which fosters rampant plant growth in, on and over virtually any and all areas. Pagan is one of the areas within Southeast Asia which benefited from its location. It was located on a river, but further, within an area that is relatively arid. This benefited Pagan's many monuments, particularly after the capitol was abandoned. Cambodia, on he other hand, is on the opposite side of the scale in Southeast Asia. Its tropical location fosters lush and unrestricted plant growth. Early photographs of Angkor indicate large trees with their tentacle-like roots meandering over, around and through the stone building units, prying them apart and compromising the structural integrity of the whole.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ratios, Relationships and Rules

Not only are Philosophical and Theological, as well as Iconic concerns of importance, these are inextricably interwoven with various rules, ratios and relationships for the construction of a temple. For the construction of a Hindu temple, units of measure; proportions of the individual architectural elements one to the other; days of the month in which construction may commence; the expected age or length of time a temple should stand; and the caste of the donor are amongst the numerous and esoteric considerations.[16] The concerns mount to such a level that only one schooled in the various permutations and the various arcane documents is able to advise and design a temple--the priest/architect, the *sthapati*. The ancient manuscript, *Manasara* and *Mayamata*, are the lodestone from which later works or compendia have evolved.[17]

Units of Measure

There are two basic units of measure--the *angula* and the *tala*. The *angula* is a measurement based upon the width of the thumb! This is obviously not an inviolable unit of measure since thumbs do vary in dimension. However, it is generally accepted that this measurement, an *angula*, is approximately three-quarters of an inch or two centimeters. The *angula* is used to establish the architectural standard of measure--the *hasta*. The *hasta* is twenty-six *angulas*, approximately nineteen-and-five-eighths inches or fifty centimeters. The *tala* is the distance from the tip of the thumb to the tip of the middle finger when the fingers are spread to their maximum--or from the hairline to the tip of the chin. On average this would be approximately nine inches or twenty-three centimeters.[18] The *hasta* and the *tala* that were utilized in the design of buildings are, therefore, impossible to standardize as it is assumed that the *angula* and *tala* may have been based upon the measurements of great personages throughout the years or upon the hands of the person who was financially responsible for the structure in question. Therefore, one immediately becomes aware of the possibility that a given structure--say an ancillary temple dedicated to *Ganesha*--may vary in size and proportion. Yet, one may find that where these standards varied, an inviolable standard or unit of measure was not the most important factor in the design of a temple. Rather the means which were used to arrive at that unit became the primary, if not the hallowed concern.

Ratios and Proportions

From the simplest temple to the most elaborate in size certain proportions were established and to which adherence was mandatory. Basically, this proportion was found in the ratio between the height (**H**), the width (**W**), and/or the depth (**D**) of the structure. For example if that ratio was one to one (1:1):

$$H \div W = 1.00$$

the resulting structure fell under the *Shantika* type or class of temple. These ratio/types vary as to the size of the temple--e.g., the *Shantika* is the ratio for large structures whereas the *Abdhuta* with a ratio of 2:1 is for small buildings:

$$H \div W = 2.00$$

This ratio is further delineated by which unit (**H** or **W**) is used as the basis for the ratio. If the height (**H**) is the basis then the delineation is referred to as *Sthanaka*--e.g., *Shantika Sthanaka* or *Abdhuta Sthanaka*. If, on the other hand, the width (**W**) is the basis then the delineation is referred to as *Asana*--e.g., *Shantika Asana or Abdhuta Asana*. Finally, if the depth (**D**) is the basis then the delineation is referred to as *Shayana*--e.g., *Shantika* or *Shayana* or *Abdhuta Shayana*. There are, therefore six different computational variations regarding height, width and depth:

$$H \div W \quad W \div H \quad D \div W$$
$$W \div D \quad D \div H \quad H \div D$$

The various parts of a structure may also be utilized in establishing ratios. However, there is one which appears to be more important than the others--i.e., the ratio between the height of the base (**HB**) and the height of the temple (**H**). Atmadi notes that in the works within his purview, one ratio stands out--i.e.,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the relationship of the base to the height. This ratio appears to be a constant one to eight (1:8):[19]

$$\mathbf{HB} \div \mathbf{H} = 1/8\ \mathrm{H}$$

Regardless of whether the height of the structure is divided into divisions other than eight, the resultant ratio is 1:8. For example: if the height (**H**) of the building is divided into twelve modules, the height of the Base (**HB**) is 1.5 of the whole, or:

$$1.5\ (\mathbf{HB}) \times 1/12\ \mathbf{H} = 1/8$$

These ratios were not merely theoretical standards, they were proportions and rules which for both the Hindu and the Buddhist had cosmic implications that were applied to civilizations outside the confines of Mother India.[20]

Importance of Site

Where a temple is to be erected, the locale, is also of major importance. Consideration is given to construct a temple upon a high place as noted above, however that is not a prime consideration. The plot of land under consideration must be clean, clean of any of the darker vocations of mankind--i.e., it may not have been used for burial or cremation purposes, it may not have been used as a dump for refuse, it may not have been abattoir, or a locale in which any sort of violence (murder, rape, war or pillage) had occurred. The area of the temple is then outlined and the orientation is established. After offerings and ritual cleansing by the priest, the land is then plowed and corn is planted, to grow and ripen. After the crop has matured cows are allowed to graze upon the plot for two days, further cleansing and sanctifying it. It is after this that the *Vastu Purusha Mandala* is drawn on the ground.

Rules of Size, Duration and Caste[21]

The size of the *mandala*, and, therefore, the temple is not arbitrary, but, must conform to a series of arithmetic computations, each based upon the preceding calculation. The results of these 'cosmic' related calculations, if auspicious in their results along with the proportions and ratios, will result in a temple that is not only aesthetically pleasing but also one which possess a viable time-space harmony.

When the *Vastu Purusha Mandala* is drawn on the ground, numerous calculations have already been made which must yield positive results. The construction of a temple, a terrestrial manifestation, is undertaken with the idea that the earthly is imperfect. Only The Absolute, the *Brahma*, represented by the square, is perfect. Therefore, the various calculations, which always includes a division component, are so devised as to result in a remainder. It is the remainder which guides the *sthapati* and established the proper proportions. It is the remainder which ultimately represents the terrestrial in the lengthy and complex process of "design."

The primary calculations undertaken in the consideration of the possible construction of a temple are six in number. Each relates to each other as well as the whole and the resultant computations must conform to a number of variables. Time and space both play a vital part in the calculations. These foundational reckonings are:

1. A set of calculations pertains to the width of the temple, the remainder of this calculation is called *vyaya*:

$$\mathbf{W} \times 9 \div 10 = \text{whole \#}\ (\text{remainder} = \textit{vyaya})$$

The integer ten is cosmic in its make up (1 + 2 + 3 + 4 = 10) and represents perfection or completeness.

2. The next formula affirms the length (**L**) of the temple, the remainder of this calculation is called *riksha*:

$$\mathbf{L} \times 8 \div 27 = \text{whole \#}\ (\text{remainder} = \textit{riksha}).$$

The remainder determines under which star or planet the temple is to be constructed. Twenty-seven is the number of planets recognized by the Hindu astronomers. If, for some reason, the temple is to be built under a particular star, then the **L** must be adjusted until the *riksha* falls within the index number of the star.

3. This formula is linked to the second in that the length of the temple is the determinant factor, the remainder of this calculation is called *aya*:

$$\mathbf{L} \times 8 \div 12 = \text{whole \#}\ (\text{remainder} = \textit{aya}).$$

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The integer twelve in this figuring is related to the signs of the Zodiac, an important consideration in Hindu practice as well as Buddhist.

4. The circumference (C) is affirmed by the fourth calculation, the remainder of this calculation is called *vara*:

C x 9 ÷ 7 = whole # (remainder = *vara*).

Seven in this formula refers to the seven days of the week and the *vara* is the day that the construction should commence--one is Monday and so forth. If for some reason the *vara* falls on an inauspicious day, then there must be adjustments made.

5. The fifth also relates to the fourth in that the circumference is involved, the remainder of this calculation is called *tithi*:

C x 9 ÷ 30 = whole # (remainder = *tithi*).

This remainder refers to which day in the calendar month that the construction of the temple should begin. Thirty in this formula refers to the days in a calendar month. And,

6. This, the last of the primary calculations is related to the orientation of the temple, the remainder of this calculation is called *yoni*:

W x 3 ÷ 8 = whole # (remainder = *yoni*)

The remainder is the manifestation of the phenomenal sphere, the world. For example, in arriving at the orientation of the temple, the width (W) of the temple is multiplied by the perfect number three and divided by the auspicious eight--the eight directions of the compass. Since a remainder of zero (0) could result, the eight directions are numbered from zero to seven. Zero representing the east (See: **Figure 1**). Of course the east is the most favored orientation with the west being acceptable, but less auspicious. Virtually every other orientation are considered to be inauspicious. The remainder is known as the *yoni* and that denotes the orientation. For example:

7 (W) x 3 = 21 ÷ 8 = 2 (5 remainder)

Since the remainder is five (northwest), an inauspicious orientation, the calculations must be made again with certain adjustments along the way until an auspicious orientation is achieved.

There are other computations that are made only after these basic six are accomplished. One curious formula relates to the duration of the temple's life and is related to the planets:

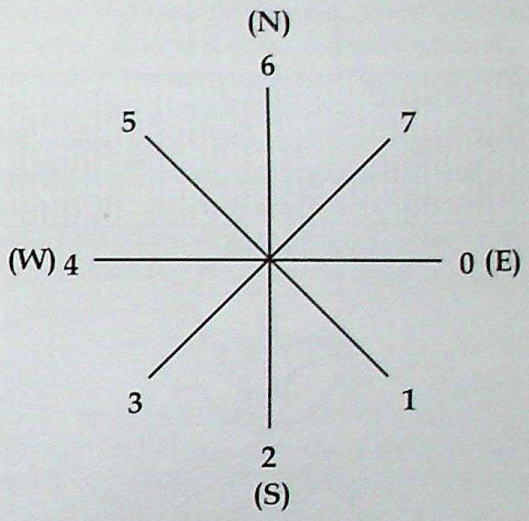


Figure 1: the consideration of the *yoni*

L x W x 27 ÷ 100 = duration
21 x 7 x 27 = 3969 ÷ 100 = 39 (69 remainder)

In this instance the temple will stand for sixty-six years. It is to be noted that no temple, utilizing this calculation, would stand for more than ninety-nine years.

Caste has always been important in India since the *Vedic* period. This too has a formula:

L x W x 9 ÷ 4 = whole # (remainder: caste)
21 x 7 x 9 = 1323 ÷ 4 = 33 (remainder: 3)

This calculation would indicate that the temple with these dimensions would be constructed by a *Vaishya*, a tradesman.

These various calculations were not seen as arbitrary practices. They were vital. They established link with and to the cosmos. The temple and its construction demanded this association. Anything less would interfere with the perceived cosmic forces. Forces that the Hindu saw as a link with The Absolute.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Foundational Concerns

The typical process involved in the building of a Hindu temple is fraught with religious and cosmic requirements. When one decides to have a temple constructed he is considered to be the one who

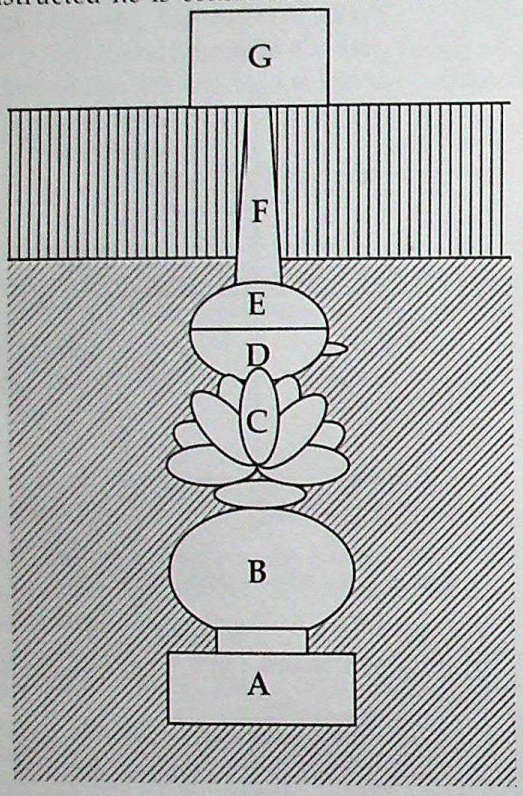


Figure 2: *Garbha-griha* foundation preparations

sacrifices (Indic: *yajamana*). His first task is to locate a suitably schooled and meritorious priest or religious architect--a *sthapati*--and through the calculations satisfy all the requirements. This process can be lengthy. There may even be such an inauspicious confluence that the project may be either delayed or cancelled. However, considering that all parameters have been successfully met construction can commence. Through prayers and numerous outward rites a site is chosen, prepared and consecrated as noted above. The *mandala* is drawn on the ground and enlivened. On the day established for the commencement of construction the foundation stone, square in shape is laid in the northwest corner of the drawn plan. The excavation of the foundation proper can then begin. Upon the completion of the foundation and the courses required to arrive at the top of the plinth the space is filled. The exception is the foundation of the sanctuary (*garbha-griha*) which is not completely filled. In that space and centered beneath the location for the main image is placed a number of auspicious objects in a proscribed order and accompanied by appropriate prayers. First, a square base-stone (Indic: *adharashila*) (**A**)[22] is laid at the exact center of the *garbha-griha* (See: **Figure 2**). On the *andharashila* are placed, one on top of the other: a stone container (Indic: *nidhikumbha*) (**B**), stone lotus (Indic: *padma*) (**C**), a stone tortoise (Indic: *kurma*) (**D**), a silver tortoise and a silver lotus together with a tortoise and lotus of gold (**E**). As these articles are individually placed and accompanied with prayers the area is gradually filled with earth. On top of the golden lotus is placed a copper, funnel-like form (Indic: *yoganala*) (**F**) and finally another square, stone slab (Indic: *brahmashila* or *napumsakashila*) (**G**) is placed on top. The *yoganala* symbolically funnels the mystic power from the items below, surrounded by mother earth to the altar above through the *brahmashila*. The plinth is then capped and the construction of the temple/shrine proper continues to its completion with the placing of the appropriate ornament on the finial (Indic: *shikhara*).

The building materials must be chosen with care and certain requirements apply. None of the materials used can have been used in any manner before their employment in the construction of the temple. They are to be, in fact, virgin materials. Further they must also be of the finest quality. Shoddy materials and/or process nullifies the total process. Even the tools used should be of such quality as to bring honor not only to the user, but, more importantly, to the edifice. In some instances prayers are addressed to the tools as they symbolically become the tools of the deity.

The above in not meant to be an exhaustive consideration of the various relationships and rules which govern the construction of an Hindu temple. It is meant, however, to give a hint at the complexities that are involved. The consideration, design and construction of a Buddhist temple is not less complex since the vast majority of these considerations are based upon the Hindu ideal. Even in Thailand Brahmins are an integral part of the court and utilized in the esoteric regions of protocol and as a source for proper temple construction.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Philosophic & Theological Foundations

"If God did not exist,
it would be necessary to invent him."
(Voltaire)

In dealing with the arts and architecture of Southeast Asia some understanding of the religious practices and how they effect not only worship but also everyday life is mandatory, particularly in order to appreciate the whole. The influence of philosophy and theology upon both two and three dimensional artistic production has been dealt with in numerous studies. Scant attention has been paid to the plans of the various structures other than to acknowledge the rather complicated arithmetic, astrological and caste designations which have gone into their design, particularly the design of the Hindu temple.

The theology of Hinduism and Buddhism is complex and has also been dealt with in a number of important and varied sources, particularly since modern scholarship has began to deal with these important areas. Nonetheless, there are certain generic and varied cultural practices founded within religious precepts that have influenced the architecture and in particular architectural sculpture. In some instances, these practices place Buddhist and Hindu architectural forms in a practical variance with the practices and architectural forms of later religions, particularly in the "West." The architectural sculpture ensembles of these temples in the areas/cultures under consideration, in many ways define, stylistically, the cultures themselves. The genesis of much of the basic formal content is generally, even universally acknowledged to be "mother" India. Yet, each region, each culture has placed its mark upon their production--much in the same way that one differentiates between French, English, German and Italian Gothic architecture. Whether *Mahayana, Theravada* and *Vajrayana* Buddhism; whether *Vaishnava, Shaiva* or *Shakti*, the peoples adapted preexisting forms, and changed these forms to conform to their particular needs and/or desires.

Hinduism and Buddhism possess a number of parallels which set them apart from other major world religions.[23] These parallels are to be found in the very nature of the two faiths--i.e., they are passive, inclusive, positive, non-congregational, non-hierarchic,[24] with no locus of "power," without a concept of "sin" (in the Judeo-Christian-Islamic sense), and a unique set of "rewards" for proper living. The following sections are but a *précis* and not meant to be a thorough consideration of these various concepts. It is felt, however, that they are a necessary foundation in light of the total consideration of this study.

Passive

In both Hinduism and Buddhism it is their passivity that, in part, unite them and set them apart from the other major world religions. Passive in that they are basically non-proselytizing.[25] The missionary zeal that identifies Christianity and Islam is simply nonexistent in Hinduism and Buddhism. Further, neither have a history of "holy wars" as the Christian Crusades or the Islamic *Jihad*. This aggressive, even violent concept is simply outside the pale of these two nonviolent faiths. Their passivity ranges wide. Some Hindus and Buddhists are strict vegetarians since to eat the flesh of an animal connotes a form of violence. Some Hindu believers will not kill an offending mosquito or fly, indeed some cease walking for fear of inadvertently trampling on some hapless, unseen being.

Inclusive

As they are passive, so too are they inclusive--in this they are radically different from the other major world religions. The rather strict, narrow parameters of faith that are present in other exclusive religions--i.e., Judaism, Christianity and Islam--are not present in the faiths of the Hindu or the Buddhist. The doctrinaire exclusivity, the "advantage" of belonging to a restricted club is unheard of in these two faiths. It is theoretically possible to be Buddhist and Christian, however it is impossible to be Christian and Buddhist! I have visited the Malaysian home of a Buddhist, a

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Tamil, and was initially surprised to see Hindu images and pictures within the same room as the Buddhist altar. Similarly, within the sacred Buddhist precincts of *Swayambhunath*, Kathmandu, Nepal, is to be found the *Harati Temple* to which many Hindus come to pray. Although some view Buddhism as a Hindu heresy, many view it a merely a new direction--a child, albeit errant of the mother faith. Each of the two faiths have assumed much of the preexisting religions within their spheres of influence. Many of the Vedic deities are seen to have been Aryan in origin, imported from regions to the west and north--e.g., *Surya, Agni* or even *Ganesha*. Whereas they assumed prime importance in the early (Vedic) period, they were supplanted by other deities and relegated to lesser roles in the later (Hindu) period. *Tara*, a minor Hindu goddess (one of the powerful *Dasha-Mahavidyas*)[26] becomes a major divinity in *Mahayana* and *Vajrayana* Buddhism. The *Rakshasa* and *Yakshasa* of the Hindu are merely two groups/classes of numerous groups of demigods, or spirits, or demons, but they play active roles in *Mahayana* Buddhism. Similarly, one may find many deity-members of the preexisting *Bon* religion's pantheon assumed into *Vajrayana* Buddhism. Even aspects of ancient animism are to be found within *Theravada* Buddhism in Thailand and Myanmar (Burma). They do not exclude, they include. Of course there are certain precepts or practices which are observed by members of these two faiths in which one might view as a kind of exclusivity--e.g., the Hindus generally eschew the consumption of beef, and the *Theravada* Buddhists have a strong aversion towards violence. Yet, faith, as a term used within a Christian concept, is amorphous at best within these two practices. Faith to the Hindu or Buddhists is not a narrow, restricted set of principles or precepts but an umbrella under which many with divergent beliefs and practices might find solace and protection.

Positive

Hindu and Buddhist literature is generally positive in its pronouncements and nature. There are few prohibitions or admonitions--i.e., "thou shalt not's" do not appear to any significant extent. Rather, the literature contains numerous examples of what should or ought to be done, examples of "right" living. That is not to say that the practitioners of these two faiths may act with impunity. There is a doctrine of cause and effect within Hinduism and Buddhism, but a doctrine of "sin" in a Judeo-Christian context is severely subdued. Emphasis is placed upon the positive rather than the negative. Hell is a concept that is recognized by these two faiths, but it is not a permanent condition. Rather, ones sojourn in that region is of a longer or shorter length of time, and is more akin to the Roman Catholic idea of Purgatory. All religions recognize the trials and tribulations of life. The difference comes in how these religions view the genesis of these torments. The Judeo-Christian and Islamic faiths often look upon these tribulations as the result of the transgression or wrongdoings of an individual or even a people in the present life. The Buddhists and Hindus generally do not look upon these mortal trials as an effect of something done in this life, but consider it as an accepted mortal situation.[27] Trials and tribulations are a natural result of living and are often stoically accepted as *karma*. The Judeo-Christian and Islamic faiths offer Heaven as an end devoutly to be desired, Hinduism and Buddhism offer *Nirvana*. This positive quality also manifests itself in the reaction of the devotees to the shortcomings of a fellow believer or of some one outside the faith that is parallel to a verbal shrug of the shoulder. The Thais say, "*Sanuk*," (roughly translated: "that's life!" or "have fun").

Non-congregational

Of the major world religions Hinduism and Buddhism are two which tend to be non-congregational. That is not to say that masses of these two religions do not gather from time to time to worship, offer praise or make specific offerings. However, regular--i.e., daily or weekly--established or required gatherings of the devout, *en masse*, is not a prerequisite for belonging. The gathering together, the congregating of Christians on Sunday, or of the Muslims on Friday is not practised by these two faiths. Rather, it is the individual's worship, in what ever mode he or she sees fit, at regular intervals that are convenient which is the norm. When one visits a Hindu or Buddhist shrine, one becomes aware of the constant comings and goings of devotees, particularly during the daylight hours. There are exceptions: there are various festivals or holy days on which masses may gather at a particular locale to worship. However, for both of these faiths it is possible to worship any

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

time, or any place--the emphasis is placed upon the individual.

Non-hierarchic

Hinduism is unique in that it tends to be non-hierarchic, and to a lesser degree *Theravada* Buddhism is as well. The Hindu priesthood is remarkably egalitarian--there is a notable absence of rank. Certainly, a young priest would probably not be given a large and important temple as his sole responsibility. In this instance seniority appears to rule. In the *Theravada* tradition, particularly in Thailand there is a form of hierarchy in the fact that an abbot is the spiritual head of each *wat*, and the whole of Thailand possesses a patriarch whose role tends to be more administrative than the issuing spiritual pronouncements, or bulls, or dogmas. *Mahayana* and especially *Vajrayana*[28] Buddhism is hierarchic, although with the exception of the *Dalai Lama* and *Panchen Lama*, most *Mahayana* and *Vajrayana* monks and *lamas* are treated with the same respect. Even if the *Panchen* and/or the *Dalai Lama* may make a particular pronouncement regarding faith, generally these pronouncements are not binding or a requirement for membership. They are usually more instructional. The major exception to this rather amorphous rule is the temporal power that the *Dalai Lama* possessed and to some lesser degree still possesses for the Tibetan Diaspora.

No power center

Hinduism and Buddhism are two faiths which do not posses a locus of power, obviously due in part to the fact that their hierarchic structure is amorphous. Roman Catholicism has its Rome, Islam its Mecca, Judaism its Jerusalem, etc. These types of centres do not exist within Hinduism and certainly not within *Theravada* Buddhism. Although, historically, from time to time Thailand, Burma and the other *Theravadist* countries have deferred to Sri Lanka. However, both of these faiths do have popular temples or shrines which become more cult centered to the vast numbers who visit them rather than as faith-centres of power. Even within the *Mahayana* and *Vajrayana* faiths, such power centres are not of any major importance, with the exception of Lhasa, Tibet to the *Vajrayanists*.

Sin & Damnation

To say that "sin" does not exist within the Hindu and Buddhists faiths is not altogether true. It is their concept of sin which differs from that of Judaism, Christianity and Islam. The positive nature of these religions do not offer a black and white choice that the "*Thou shalt not*" pronouncements do. On the other hand there are lists of things that **ought** to be done and if they are not done, damnation **is not** necessarily the result. The outcome of unrepentant, repeated "sin" is not damnation, eternal, and not forgiven, but the rebirth in a lower life form and the long ascension of the ladder again towards Enlightenment. It is an "either/or" situation. Hindu and Buddhist philosophy is far more accepting. Accepting of human nature which is eschewed, particularly within Christianity with its elevation of the soul above the mental and the two far above the lowly physical aspect is the norm. If one continues to do things which harm either physically or emotionally or mentally another being, then that person will revert to a lower life form only to start back up the ladder until Enlightenment is finally achieved.

Final Reward

Finally, Hinduism and Buddhism do not offer the same type of reward as do Judaism, Christianity or Islam. Within Hinduism and Buddhism there is no heaven! Certainly not a heaven which has been characterized by the Judeo-Christian and Islamic faiths as a reward: a land-of-milk-and-honey, streets of gold, mansions for everyone, no hunger, no pain, only joy, and where every "clean" desire is satisfied. Heaven is likened to the tidbit a trained animal gets for jumping through the hoop. This is antithetical to the Hindu and Buddhist. Rather, *Nirvana*--a state of absolute nothingness, the cessation of the intolerable cycle of rebirth and the pain involved in life. This is their desire. This is their end.

Present versus Future

The focus of both Hinduism and Buddhism is on the present with an eye to the future. While, for the most part the focus of Christianity, Islam and to a lesser extent Judaism is on the future. The Hindu and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Buddhist look upon the present life as a condition to be accepted, to be tolerated, and, if possible, to be improved upon for the benefit of the individual within proscribed parameters. It is the actions of the present that will ultimately effect the future. In this light, the concept of "merit" controls much of the action of the people, particularly the Buddhists. "Right action," particularly with proper devotion and reason accrues benefits for the future. This concept of merit may be equated with the Christian concept of "works," denigrated as a means for salvation in the *New Testament*. Both the "ancient" and the more modern faiths view the present life as transitory. However, within the Hindu and Buddhist faiths the desire to achieve monetary gains is an acceptable quest, particularly as it allows one to not only some creature comfort in the present, but also because it allows for increased merit giving. It must be emphasized that the giving of merit and its accrued worth is dependent upon the circumstance of the individual. Therefore, the meritorious activity of the great builder Alangsithu (aka Sithu I) in the construction of *That-Byin-Nyu*, Pagan, is conceptually equal to a poor farmer who donates several sacks of rice. The New Testament saying regarding the "eye of the needle" is also applicable. Not only is merit important, but also the theological/philosophic manner is to be considered as well.

Finally, the *raison d'etre* surrounding merit as applied to the two branches of Buddhism must be considered. *Theravada Buddhism* views the attainment of Enlightenment as a personal accomplishment and the influence that it may have upon others is incidental to the individual. Within the *Mahayana* branch the view of merit and the attainment of higher realms is directly related to the goal of aiding others to attain Enlightenment--compassion is the term applied. This *Mahayanist* concept may be likened to the Christian notion of "witnessing," particularly as applied to the more fundamental denominations, but is in no way considered to be proselytizing..

These considerations--passive, inclusive, positive, non-congregational , non-hierarchic, no power center, sin & damnation, final reward, and present versus future--in part, have influenced, to a greater or lesser extent, the aesthetic forms of the Hindu and Buddhist faiths. When they are melded with other esoteric considerations--i.e., rules and proportions--the great religious structures associated with these religions emerge. They are a testament of the faith, as are all ecclesiastical structures, and mirror the particular greatness of these ancient and still living religions.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Numerology

Numbers as Symbols[29]

In order to explain the unknown, the ineffable, humankind has sought out associations or sources to explain these conundrums. It was early noted that there was a relationship between the phases of the moon and the tides. The concept of neither the earth's rotation or even that of the moon was know or fathomed, nor was the concept of gravity understood. However, the twenty-eight day cycle was calculated, noted and became an important number. Likewise, the circle, a form that appeared frequently in nature was also considered as a source of some importance--the number one was ascribed to this form. The nuclear or core family of a father, mother and child--three--and later the trinity (The Lords *Brahma, Vishnu* and *Shiva*) were seen as having special significance. The square later assumed status with its four equal sides and equal angles--four, too, assumes status. So, ancient man saw significance in numbers and frequently used them to explain or even predict through the "science of numerology." Astrology became a parallel, interwoven "science" that was also assiduously practiced as a way of understanding things unknown or unseen. Together, they were employed to fathom the unknown, to predict the future.

Within the Buddhist/Hindu world the philosophy of numbers, the ethos of numbers, the meaning of numbers beyond their numerological application were, for the most part, intuited and understood by the priests (*Brahmins*) and the architects (*sthapati*). Within the various treatises--e.g., the *Manasara* or *Mayamata*--appeared ratios, relationships and numbers, the iconography of which was understood by the priests and/or architects. Numerology, on the other hand, which frequently was employed to predict ones future, was applicable to the *sthapati's* endeavors in as much as the iconic meanings were utilized in the design and construction of temples and other buildings.

Numbers have always held an important and particularly far reaching fascination for all the various cultures of Asia. The "magic square," in which consecutive numbers, starting with the number one, are placed within equally divided squares, the sum of which, in any direction, is the same (See: "The *Mandala*," below). Within both the Hindu and the Buddhist traditions, numbers have important mystic and iconic significance. Not only the numbers, but also the geometric forms which are associated with certain numbers are of considerable importance in these cultures.

It is to be noted again that within the Hindu system odd numbers are masculine, whereas even numbers are feminine. Odd numbers refer to essential functions while even numbers allude to fundamental functions. Further, mediating numbers are composed of even numbers with odd halves. Finally, compound numbers can be looked at in one of two ways. First, as a number composed of two separate components--i.e., twenty-three (23)--in which the two integers, two (2) and three (3) are considered separately and as a combination. Two is a feminine even number related to the moon and three is an odd masculine number associated with Jupiter (*Brihaspati* or *Guru*). Both planets influence the compound number, Secondly, the number can be viewed as the sum of the two components of the compound number--e.g., using again twenty-three: 2 + 3 = 5. Five is a number associated with Mercury (*Budha*).

The following is but a brief listing and annotation of certain numbers, their significance and use as applied to Buddhist and Hindu practices:

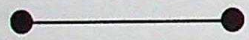
<u>One</u>: denotes the source, the monad, the first principle, unity, The Absolute One and The Primordial One and spiritual balance, the divine sign of universal life. This number is generally considered neither an odd nor an even number. As an absolute, it is beyond all and therefore divine. However, there are those who consider it as an odd number and as such it is a male symbol. It is exemplified in: day; bright; the right (hand); the first of the five elements (*pancha-tanmatras*)--ether (*akasha, vymon*), and the *Sakala Mandala* (1 *pada*). It is associated astronomically with the Sun (*Ravi* or *Surya*). It is visually represented by: a dot (*bija*) or the circle.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

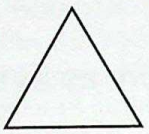
Digitized by Arya Samaj Foundation Chennai and eGangotri

Numerology (Continued)

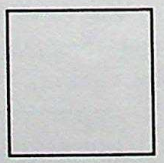
Two: denotes duality, contrast, polarity and diversity. This integer is a material number, as opposed to a divine number, and when applied to either the Arabic or Roman alphabet, it is considered as the number of creation, and the mother principle. As an even number, a female symbol two symbolizes the power principle, night, dark, left; and the moon. It is exemplified in: the concept of *Shakti-Shakta*; Two Actions (Pali: *kamma*) being: *akusala-kamma (evil* deeds) & *kusala-kamma* (good deeds); the Two Types of Gift Giving (Pali: *dana*) being: *amisa-dana* (material gift) & *dhamma-dana* (spiritual gift); right-left; heaven-hell; day-night; two eyes, nostrils, breasts and testes; and the second of the five elements (*pancha-tanmatras*)--air or wind (*vayu, marut*). It is associated astronomically with the Moon (*Soma* or *Chandra*). The Moon, a prime feminine symbol is quite naturally assigned to the first feminine (even) number. Additionally, it represents the *Ajna Chakra*. It is visually represented by two points (usually connected by a line.



Three: denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection (1 + 2 = 3). This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; the *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*) being: *arupadhatu, rupadhatu* & *kamadhatu*; the Three Cities (Indic: *tripura*); the Three Times (*kála*) being: *bhuta-kala* (past), *vartamana-kala* (present) & *bavishya-kala* (future); the Three Forces (*guna*) being: *sattvaguna, rajoguna* & *tamoguna*; the *trivarga* (objects of human pursuit) being: *dharma* (virtue), *artha* (purpose) & *kama* (pleasure); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law) & the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). As the first masculine number (odd), the powerful and sometimes fierce planet/deity is an apt symbol. It is visually represented by the triangle, the most stable of all forms.



Four: denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas* being: *dharma* (virtue), *artha* (purpose), *kama* (pleasure) & *moksha* (liberation); the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). As with the number two, the even number four is seen to be associated with the Moon. Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. It is visually represented by the square which for the Hindu represents the stability, and the unchangingness of The Absolute One.



Five: denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the

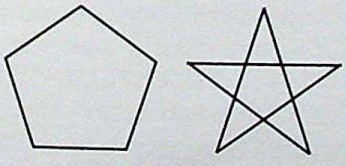
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

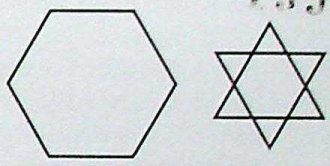
720.284
BUN-T

135372

masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*) being: *shabda* (sound), *sparsha* (touch), *rupa* (form), *rasa* (flavor) & *gandha* (odor); the Five Failings or Weaknesses being: *ahmkara* (pride), *moha* (illusion), *lobha* (greed), *kama* (passion) & *krodha* (anger); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*) being: *akasha* (ether), *vayu* (air), *tejas* (fire), *apas* (water) & *prithivi* (earth); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra* being: *madya* (wine), *mamsa* (meat), *matsya* (fish), *mudra* (parched grain) & *maithuna* (sexual congress); the five *skandhas* being: *rupa, vidana, sanini, sanskara* & *vidyana*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Again as an odd, masculine number five is assigned a masculine planet. It is visually represented by the pentagon or five-pointed star (pentagram).



Six: denotes the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. This integer is considered to be the most perfect number (1 + 2 + 3 = 6 or 1 x 2 x 3 = 6) and the product of the first male and female numbers (2 x 3 = 6) signifying universal attraction. As such, it is considered to be a lucky number. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu*; the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*) being: *Muladhara, Svadhishthana, Manipura, Anahata, Vishuddha* & *Ajna*; the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra*. The *shatkona* is made up of the male symbol and the female symbol and additionally symbolizes the macro- and microcosm. It is visually represented by a hexagon or six-pointed star.



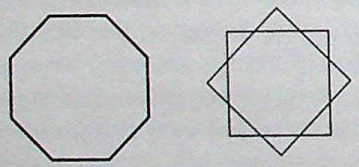
Seven: denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine) (3 + 4 = 7), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon (4 x 7 = 28); the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu* being: *rasa, rakta, masa, majja, sati, meda* & *sukra*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). The assigning of the descending node of the Moon to a masculine (odd) number appears contradictory. However, Ketu is an inauspicious masculine deity. It may be represented as heptagon as in the *Sharabha Yantra*, a seven-petaled lotus as in the *Matsya Yantra* or a form which connotes endlessness.

Eight: denotes perfection, good fortune, and on the divine plane: justice and balance between

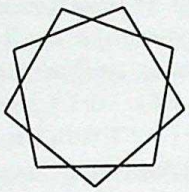
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

attraction and repulsion, positive and negative. This integer as even, is representative of motherhood. It is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature) being: *akasha, vayu, tejas, apa, kshiti, sattva, rajas & tamas*; the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges being: *sita, ushna, sukha, duhkha, iccha, sattva, rajas & tamas*; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). The even (feminine) eight is assigned to a powerful and often fierce masculine planet. This may be a referent to: "justice and balance between attraction and repulsion." Additionally, it represents the number when squared that makes up the *Manduka Mandala*. It is visually represented by the octagon, or an eight pointed star.

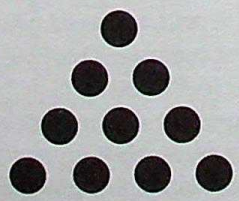


Nine: denotes completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion (3 + 3 + 3 = 9 or 3 x 3 = 9) and space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number (9 x 9 = 81=9, 9 x 18 = 162 = 9). It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*) being: pearl, ruby topaz, diamond, emerald, coral, sapphire, moonstone & sardonyx; the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*). As the second most powerful odd number (the square of the sacred three),



nine is assigned the puissant planet, Mars. It can be visually represented by a nine-sided figure and a nine point star, a form which connotes endlessness:

Ten: denotes perfection or completeness, success, and cosmic wisdom, as well as *karma*. It further represents unity emerging from multiplicity. It is the first compound number. This integer is: (1 + 2 + 3 + 4 = 10). It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *dashavataras*); the *dasha-vahini-kala* (ten powers of the vital fire) being: *rechaka, pachaka, shashana, dahaka, plavaka, ksharaka, kshobhaka, irimbhaka & mohaka*; the *dasha-yonis* (or *dasha-shaktis*); the Ten Sense Powers (Indic: *indriyas*); the Tenfold Knowledge (Indic: *dasha-nanam*); the *dasha-siddhis* of the *Shri Chakra's Trailokyamohana* being: *anima, laghima, mahima, ishitva, vashitva, prakamya , bhukti, iccha, garima & sarva-kamasiddhi*; the ten books of the *Rig-Veda*; the Ten Insights (Pali: *solasa-nana*); the Ten Powers of *Buddha* (Indic: *dashabhala*; Tib.: *sTobs-bCu*); the Ten Directions (Tib.: *Phyogs-bCu*) which are: the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; *Dasha-Mahavidyas*; and ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (1 + 0 = 1) (*Ravi* or *Surya*). Additionally, it represents by the *Manipuraka Chakra*. It may be visually represented by a ten pointed star, decagon or in a tenpin arrangement which refers to perfection.



Eleven: denotes universal energy, liberty and the transience of life. It is considered obstinate and revolutionary. To some it is an unlucky number (Hindu), the number for transgressions (10 + 1), while to others is auspicious and dynamic signifying vitality

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

([2 + 3] + [2 x 3] = 11). It is a mystic number made up of one twice (1\1).[30] It is exemplified in: the eleven *Rudras* who are destroyers; and eleven heads of the Thousand-Armed Thousand-Eyed *Avalokiteshvara* (Tib.: *sPyan-ras-gzigs Phyag-sTong sPyan-sTong*). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*). When reduced it produces two, and, therefore, the Moon (*Soma* or *Chandra*) (1 + 1 = 2).

Twelve: denotes sacrifice and is related to immortality. This numeral is: a cosmic number (3 x 4 = 12 or 5 + 7 = 12) (1\2) 24, and 12 x 30 = 360^0 as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) (1) and the Moon (*Soma* or *Chandra*) (2). When reduced it produces three (1 + 2 = 3) and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3). Additionally, it represents the *Anahata Chakra*.

Thirteen: denotes the imperfect (12 + 1 = 13), transformation, change, the Destroyer and Creator and the ability to overcome obstacles. It is exemplified in the thirteen discs of the *kota*; the Thirteen Mystic Powers of the *Buddha* (Indic: *dasha-tathagata-balani* plus *avenikasmrityupasthana*); thirteen lunar months, the thirteen days involving the rites of the dead (*tehravim*); and the Thirteen Means of Removing Defilements (Pali: *dhutanga*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the planet Jupiter (*Brihaspati* or *Guru*) (3). When reduced it produces four (1 + 3 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

Fourteen: denotes involution, transmutation and relates to sexual relations. This integer is a number of luck (7 + 7 = 14). It is exemplified in the full moon, two of the moon's four cycles (waxing and waning); the *chaturdasha nadis* being: *alambusha-nadi, kuhu-nadi, vishvodara-nadi, varana-nadi, hasti-jihva-nadi, yasho-vati-nadi, payasvini-nadi, gandhari-nadi, pusha-nadi, shankhini-nadi, sarasvati-nadi, ida-nadi, pingala-nadi & sushumna-nadi*; the *Chaturdasha-dala trikona (Sarva Saubhagya-Dayaka Chakra of the Shri Chakra)*; the Fourteen *bhuvanas*; the fourteen-triangle figure of the *Shri Chakra* (*chaturdasha kona*); and the fourteen Psychic Functions (Pali: *vinnana-kicca*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces five (1 + 4 = 5) and, therefore, the planet Mercury (*Budha*) (5).

Fifteen: denotes cosmic completeness, destiny. This number is considered to be a fatal number associated with chance. Fifteen is also auspicious in its make up: (1 + 2 + 3 + 4 + 5 = 15, 5 + 5 + 5 = 15, 3 x 5 = 15). It is exemplified in: the fifteen world planes being: six in *kamaloka*, five in *rupaloka* and four in *arupaloka*, is the sum of the various directions in a nine *pada* magic square of *Surya* (shown below);

4	9	2	15
3	5	7	15
8	1	6	15
15	15	15	

the fifteen letters (*panchadashi*) of the *Shri Vidya mantra*; the fifteen *Tithis* (*panchadasha-Tithis*); and the fifteen *Nityas* (*panchadasha-Nityas*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the planet Mercury (*Budha*) (5). When reduced it produces six (1 + 5 = 6) and, therefore, the planet Venus (*Shukra*) (6).

Sixteen: denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness (4 + 4 + 4 + 4 = 16, 4 x 4 = 16, 8 + 8 = 16, 2 x 8 = 16), or balance being made up of opposites--the Sun and Venus. It is a number whose $\sqrt{}$ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini* being: *kama-karshini, buddhya-karshini, ahama-karshini, sabda-karshini, sparsha-karshini, rupa-karshini, rasa-karshini, gandha-karshini, chitta-karshini, dhairya-karshini, smritya-karshini, nama-karshini, bija-karshini, atma-karshini, amrita-karshini & sharira-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* (4 x 4 = 16) called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the planet Venus (*Shukra*) (6). When reduced it produces seven (1 + 6 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7). Additionally, it represents the *Vishudha Chakra*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Seventeen: denotes conquest, wisdom and immortality. This number is a mystical number (1\7), a symbol for speech, as well as the number of assent and one which represents struggle. It has been noted that it represents the sum of the four numbers in the lower left hand corner of the magic square first noted above--i.e., 1 + 5 + 8 + 3 = 17. As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the planet Venus (*Shukra*) (6). When reduced it produces eight (1 + 7 = 8) and, therefore, the planet Saturn (*Shani*) (8).

17 =

4	9	2
3	5	7
8	1	6

= 28

Eighteen: denotes completeness (9 + 9 = 18), it can also denote chaos, deadlock and a spiritual hinderance. It is exemplified in: the eighteen *parvas* of the *Mahabharata*; the eighteen chapters of the *Bhagavadgita*; the eighteen sense Elements (Pali: *dhatu*): and sunset (the eighteenth hour or 6:00 p.m.). As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the planet Saturn (*Shani*) (8). When reduced it produces nine (1 + 8 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9), three aggressive "planets."

Twenty: denotes, as double ten (10 - 10), perfection or completeness, success, and cosmic wisdom. This number is auspicious in its make up (2 x 10 = 20, 4 x 5 = 20, 13 + 7 = 20, 12 + 8 = 20, 2 + 4 + 6 + 8 = 20) and represents renewal. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*. As a compound number it is associated with the Moon (*Soma* or *Chandra*) (2).

Twenty-one: denotes perfection, and success (1 + 2 + 3 + 4 + 5 + 6 = 21, 3 x 7 = 21). It is related to the cycles of the moon, 3 x 7 = 21 in this instance all three numbers are masculine, as well as the twenty-one *Taras*. As a compound number it is associated with: the Moon (*Chandra* or *Soma*) (2) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces three (2 + 1 = 3) and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3).

Twenty-four: denotes totality and the combination of two opposites--i.e., 2, represented by the Moon, and 4, which denotes *Rahu*. This integer represents (6 x 4 = 24, 3 x 8 = 24, 12 + 12 = 24, 1 x 2 x 3 x 4 = 24) a cosmic number, being 12 + 12 = 24, and is considered a lucky number as 2 + 4 = 6. It is exemplified in the total of the double hours of day and night. As a compound number it is associated with the Moon (*Soma* or *Chandra*) (2) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces six (2 + 4 = 6) and, therefore, the planet Venus (*Shukra*) (6).

Twenty-five: denotes sacred and mystical magic as well as order and harmony. This numeral is an auspicious masculine integer, a number whose √ is 5, and the sum of mystic male numbers in succession (1 + 3 + 5 + 7 + 9 = 25). It is exemplified in the twenty-five *tattvas* of the *Samkhaya* school. As a compound number it is associated with the Moon (*Chandra* or *Soma*) (2) and Mercury (*Budha*) (5). When reduced it produces seven (2 + 5 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7). Additionally, it represents the *pada* for a *mandala* (5 x 5 = 25), the *Upapitha Mandala*.

Twenty-seven: denotes sacredness as 3 x 9 = 27, and energy as in the union of two opposites. This integer represents the first masculine cube (3^3). It is exemplified in: the number of beads in a *Sumirni Mala*, the number of planets or stars which are used to determine the length of a Hindu temple; and is the number of nights in which the moon is visible. As a compound number it is associated with the Moon (*Soma* or *Chandra*) (2) and the planet *Ketu* (the descending node of the moon) (7). When reduced it produces nine (2 + 7 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Twenty-eight: is an auspicious number (1 + 2 + 3 + 4 + 5 + 6 + 7 = 28), this numeral represents a number that is associated with the moon's cycle--twenty-eight days (4 x 7 = 28). It is a perfect number arrived at by the addition of its divisors (1 + 2 + 4 + 7 + 14 = 28). It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi, kamasugati-bhumi* and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) (2) and the planet Saturn (*Shani*) (8). When reduced it produces one (2 + 8 = 1[0]) and, therefore, the Sun (*Ravi* or *Surya*) (1).

Thirty: is considered to be a psychic numeral and is auspicious in its make up (10 + 10 + 10 = 30, 3 x 10 = 30). It is exemplified in: the classes of beings in the three spheres--i.e., ten in *kamaloka*, sixteen in *rupaloka*, and four in *arupaloka*; Lord *Krishna* assumed

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

64 *vidyas* in thirty days, the days in a solar month; and 1/12 of a circle (30 x 12 = 360^0). As a compound number it is associated with the planet Jupiter (*Brihaspati* or *Guru*) (3[0]).

Thirty-one: is inauspicious as it is associated with hinderance and delay on one hand and order and harmony on the other. It is exemplified in: the thirty one planes of existence (Pali: *bhumi*). As a compound number it is associated with: Jupiter (*Brihaspati* or *Guru*) (3) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces four (1 + 3 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

Thirty-two: is considered by some to be a perfect number being 4 x 8 = 32. It is exemplified in: Thirty-two Auspicious Marks of the Great Being (Tib.: *sKyes-bu-chen-pohi mTshan gSum-Cu-rTsa-gNyis*) which along with the eighty secondary signs are the recognizable signs of an Enlightened one; the thirty-two points of the compass--e.g., south, south south-southeast, southeast south-southeast, etc.--and the thirty two characteristics of human physiology. As a compound number it is associated with the planet Jupiter (*Brihaspati* or *Guru*) (3) and the Moon (*Soma* or *Chandra*) (2). When reduced it produces five (2 + 3 = 5) and, therefore, the planet Mercury (*Budha*) (5). It is visually represented in a *yantra* as a thirty-two petal lotus (*dvatrimshat-dala padma*) that is associated with various deities, particularly the *Durga Yantra* (IV) or the *Shodashi Yantra* (II).

Thirty-three: denotes perfection (two three's) (3\3), or 3 x 11 = 33, and completion. It is exemplified in: the thirty-three deities of the *Vedas*--eight *Vasus*, eleven *Rudras*, twelve *Adityas*, *Indra* and *Prajapati*, and the number of vertebrae in the spinal column. As a compound number, it is related to: the planet Jupiter (*Brihaspati* or *Guru*) (3). When reduced it produces six (3 + 3 = 6) and, therefore, the planet Venus (*Shukra*) (6).

Thirty-four: is a composite number. It is exemplified in: the sun + the moon + the five planets + the 27 *nakshastras*, and is the sum of the various directions in a sixteen *pada* magic square (see below). As a compound number, it is related to: Jupiter (*Brihaspati* or *Guru*) (3) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces seven (3 + 4 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7).

Thirty-five: is a number which denotes harmony. This integer represents the sum of the first two cubes, on feminine and the other masculine (8 + 27 = 35). It is exemplified in: the Thirty-five Buddhas of Confession (Tib.: *bDe-gShegs So-lNga*). As a compound number it is associated with the planet Jupiter (*Brihaspati* or *Guru*) (3) and the planet Mercury (*Budha*) (5). When reduced it produces eight (3 + 5 = 8) and, therefore, the planet Saturn (*Shani*) (8).

Thirty-six: is a number which represents macrocosmic completeness (3\6, 6 x 6 = 36, 4 x 9 = 36, 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 = 36), and a number whose $\sqrt{}$ is 6. This numeral, as any compound number has an opposite effect and may be considered as inauspicious. It is exemplified in the thirty-six *tattvas* of *Kashmiri Shaivism*. It is also the number of *pada* in an *Ugrapitha Mandala*. As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) (3) and the planet Venus (*Shukra*) (6). When reduced it produces nine (3 + 6 = 9) and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9).

Thirty-seven: denotes order and harmony. In *Theravada Buddhism* the number represents the thirty-seven *dharma* of the *Bodhipakaya*. As a compound number, it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) (3) and the planet *Ketu* (the descending node of the moon) (7). When reduced it produces one (3 + 7 = 1[0]) and, therefore, the Sun (*Ravi* or *Surya*) (1).

Thirty-eight: denotes the thirty-eight Blessings (Pali: *mangala*). As a compound number, it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) (3) and the planet Saturn (*Shani*) (8). When reduced it produces two (3 + 8 = 11 = 2) and, therefore, the Moon (*Soma* or *Chandra*) (2).

Thirty-nine: a numeral that is auspicious in its makeup: being the perfect three and the magnified, perfect nine (3\ 9), reflecting these two sacred numbers. As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) (3) and the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9). When reduced it produces three (3 + 9 = 12 = 3) and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3).

Forty: denotes perfection and completion (4 x 10 = 40, or 10 + 10 + 10 + 10 = 40). This numeral is related to the Pleiades disappearance. It is exemplified in: the story that the Lord *Buddha* sat for forty days under the pipal tree before Enlightenment; and the forty Mental Exercises (Pali: *kammatthana*). As a compound number it is associated astronomically

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

with the planet *Rahu* (the ascending node of the moon) (4) (4 + 0 = 4).

Forty-four: denotes success, completeness and perfection. This number underlines preparation, perfection and completion as 40 + 4 = 44. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces eight (4 + 4 = 8) and, therefore, the planet Saturn (*Shani*) (8).

Forty-eight: denotes mystical completeness (4 x 12 = 48, 12 + 12 + 12 + 12 = 48). Its association with the cosmic number twelve which comprehends all numbers lower than itself is auspicious. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) (4) and the planet Saturn (*Shani*) (8). When reduced it produces three (4 + 8 = 12 = 3) and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3). It is visually represented in the rare forty-eight-petaled lotus (*astachaturdasa-dala padma*).

Forty-nine: is a sacred number whose √ is 7. It is exemplified in the number of *pada* for a *Sthandila Mandala*. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) (4), the planet Mars (*Mangala, Kuja* or *Angaraka*) (9). When reduced it produces four (4 + 9 = 13 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

Fifty-two: denotes the transitory. It is exemplified in the Fifty-two Mental Commitments (Pali: *cetasika*). As a compound number it is associated astronomically with the planet Mercury (*Budha*) (5) and the Moon (*Soma* or *Chandra*) (2). When reduced it produces seven (5 + 2 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7).

Fifty-five: is a cosmic number being made up of the sum of the integers of one through ten (1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 = 55). As a compound number it is made up of Mercury (*Budha*) (5). When reduced it produces one (5 + 5 = 1[0]) and, therefore, the Sun (*Ravi* or *Surya*) (1).

Fifty-six: is a cosmic number related to the moon being made up of twice twenty-eight (2 x 28 = 56). As a compound number it is related to Mercury (*Budha*) (5) and Venus (*Shukra*) (6). When reduced it produces two (5 + 6 = 11 = 2) and, therefore, the Moon (*Chandra* or *Soma*) (2).

Sixty: normally: 20 + 20 + 20 = 60, 20 x 3 = 60, it refers to a complete cycle of time and is associated with the planet Venus (*Shukra*) (6). It is exemplified in: the believed cycle of Jupiter (sixty years), the sixty elements which constitute the way through the three worlds, the make up of a *stupa*, and the sixty levels of human development.

Sixty-four: denotes eternal blessedness and *karma*. This is a number whose √ is 8. It is exemplified in: the number of *pada* for a *Manduka Mandala*; sixty-four chapters in the *Rig Veda*; sixty-four pleasures of *Shiva*; the sixty-four *vidyas*; and the sixty-four *Yoginis*. As a compound number it is associated astronomically with the planet Venus (*Shukra*) (6) and the planet *Rahu* (the ascending node of the moon) (4), When reduced it produces one (6 + 4 = 1[0]) and, therefore, the Sun (*Ravi* or *Surya*) (1).

Sixty-nine: is a number associated with the magic circle (see below). It is made-up of the macrocosmic number six plus the complete number nine. As a compound number it is associated astronomically with the planet Venus (*Shukra*) (6) and the planet Mars (*Mangala, Kuja* or *Angaraka*) (9). When reduced it produces six (6 + 9 = 15 = 6) and, therefore, the planet Venus (*Shukra*) (6).

Seventy-eight: is a number associated with the magic circle (see above). It is made-up of the sacred, mystic 7 plus the auspicious, perfect number 8. As a compound number it is associated astronomically with the planet *Ketu* (the descending node of the moon) (7) and the planet Saturn (*Shani*) (8). When reduced it produces six (8 + 7 = 15 = 6) and, therefore, the planet Venus (*Shukra*) (6).

Eighty: denotes to perfection and completeness (8 x 10 = 80, 4 x 20 = 80, 2 x 40 = 80). It is exemplified in the story of the Lord *Buddha* that in his eightieth year he died, completing his life on earth. Additionally, there are eighty secondary signs that are the recognizable in an Enlightened One. It is associated astronomically with the planet Saturn (*Shani*) (8).

Eighty-one: denotes mystic wholeness (9 x 9 = 81) and a number whose √ is 9. It is exemplified in: the number of *pada* for a *Paramashayika Mandala*. As a compound number it is associated astronomically with the planet Saturn (*Shani*) (8) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces nine (8 + 1 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Eighty-four: denotes auspiciousness in its make up (8\4, 8 x 10 + 4 = 84). This numeral represents eight (8) in the four corners (4) of the world. It is exemplified in: eighty-four *siddhas*; 84,000 *stupas* built by Ashoka;

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and Mt. Meru is 84,000 units high. As a compound number it is associated astronomically with the planet Saturn (*Shani*) (8) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces three (8 + 4 = 12 = 3) and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3).

One-hundred: is the number of *pada* in an *Asana Mandala* (10 √ 100). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1).

One-hundred-and-eight: is an important astronomical number. It is exemplified in: the number of units in the Buddhist rosary; the number of *gopis* who danced for *Krishna*; the product of nine *niddhis* (money) times twelve *siddhis* (power) (9 x 12 = 108); the four lunar phases (4 x 27 = 108); one-hundred-eight Cravings (Pali: *tanha*); and one-hundred-eight Feelings (Pali: *vedana*). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1) and the planet Saturn (*Shani*) (8). When reduced it produces nine (1[0] + 8 = 9) and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9).

One-hundred-and-twelve: denotes one equaling the source \ twelve signifying the cosmic number (1 \ 12 or 1 \ 1 \ 2). It is exemplified in: the number of the chapels in the *Gyantse Kumbum*; and the one-hundred and twelve major and minor signs that are the recognizable in an Enlightened One. As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1) and the Moon (*Soma* or *Chandra*) (2). When reduced it produces four (1 + 1 + 2 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

One-hundred-twenty-one: is a number whose √ is 11, the number of *pada* in a *Sthaniya Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) (1) and the Moon (*Soma* or *Chandra*) (2). When reduced it produces four (1 + 2 + 1 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

One-hundred-and-thirty-eight: is a number associated with the magic circle (see illustration above). It is made-up of the monad 1, plus the perfect number 3, plus the auspicious number of perfection 8 (1 \ 3 \ 8). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1), the planet Jupiter (*Brihaspati* or *Guru*) (3) and the planet Saturn (*Shani*) (8). When reduced it produces three (1 + 3 + 8 = 12 = 3) and, therefore, again, the planet Jupiter (*Brihaspati* or *Guru*) (3).

One-hundred-and-forty-four: is a number whose √ is 12, and the number of *pada* in a *Deshiya Mandala* (12 √ 144). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces nine (1 + 4 + 4 = 9) and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9).

One-hundred-and-forty-seven: is a number associated with the magic circle (see illustration above) It is the sum of 7 x 21, both of which are numbers associated with the cycle of the moon. It is made-up of the monad 1, plus the complete and practical number 4, plus the sacred 7 (1 \ 4 \ 7). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1), the planet *Rahu* (the ascending node of the moon) (4) and the planet *Ketu* (the descending node of the moon) (7). When reduced it produces three (1 + 4 + 7 = 12 = 3) and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3).

One-hundred-and-sixty-nine: is a number whose √ is 13, the number of *pada* in an *Ubhayachandita Mandala* (13 √ 169). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1), the planet Venus (*Shukra*) (6) and the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9). When reduced it produces seven (1 + 6 + 9 = 16 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7).

One-hundred-and-ninety-six: is a number whose √ is 14, the number of *pada* in an *Bhadramahasana Mandala* (14 √ 196). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1), the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9) and the planet Venus (*Shukra*) (6). When reduced it produces seven (1 + 9 + 6 = 16 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7).

Two-hundred-and-twenty-five: is a number whose √ is 15. It is exemplified in: the number of *pada* in the *Lohaprasad* of *Wat Ratchanatdaram* and the *Padmagarbha Mandala* (15 √ 225). As a compound number it is associated astronomically with the Moon (*Soma* or *Chandra*) (2) and the planet Mercury (*Budha*) (5). When reduced it produces the sacred nine (2 + 2 + 5 = 9) and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9).

Two-hundred-and-fifty-six: is a number whose √ is 16. It is exemplified in: the number of *pada* for a *Triyuta Mandala* (16 √ 256). As a compound number it is associated astronomically with the Moon (*Soma* or *Chandra*) (2), he planet Mercury (*Budha*) (5) and the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

planet Venus (*Shukra*) (6). When reduced (2 + 5 + 6 = 13 = 4) the planet *Rahu* (the ascending node of the moon) (4) becomes important.

Two-hundred-and-eighty-nine: is a number whose √ is 17. It is exemplified in: the number of *pada* in a *Vratabhoga Mandala* (17 √ 289). As a compound number it is associated astronomically with the Moon (*Soma* or *Chandra*) (2), the planet Saturn (*Shani*) (8), and the planet Mars (*Mangala, Kuja* or *Angaraka*) (9). When reduced it produces one (2 + 8 + 9 = 19= 1[0]), associated astronomically with the Sun (*Ravi* or *Surya*).

Three-hundred-and-twenty-four: is a number whose √ is 18. It is exemplified in: the number of *pada* in a *Karnashtaka Mandala* (18 √ 324). As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) (3), the Moon (*Soma* or *Chandra*) (2) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it produces the sacred nine (3 + 2 + 4 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Three-hundred-and-sixty-one: is a number whose √ is 19. It is exemplified in: the number of *pada* in the *Ganita Mandala* (19 √ 361). As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) (3), the planet Venus (*Shukra*) (6) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces the sacred nine (3 + 6 + 1 = 1[0]) and, therefore, it is associated astronomically with the Sun (*Ravi* or *Surya*) (1).

Four-hundred: is a number whose √ is 20. It is exemplified in: the number of *pada* in the *Suryavishalaka Mandala* (20 √ 400). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) (4[00])

Four-hundred-and-forty-one: is a number whose √ is 21. It is exemplified in: the number of *pada* in the *Susamhita Mandala* (21 √ 441). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) (4) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces the sacred nine (4 + 4 + 1 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Four-hundred-and-eighty-four: is a number whose √ is 22. It is exemplified in: the number of *pada* in the *Supratikanta Mandala* (22 √ 484). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) (4) and the planet Saturn (*Shani*) (8). When reduced it produces seven (4 + 8 + 4 = 16=7) and, therefore, the planet *Ketu* (the descending node of the moon) (7).

Five-hundred-and-twenty-nine: is a number whose √ is 23. It is exemplified in: the number of *pada* in the *Vishala Mandala* (23 √ 529). As a compound number it is associated astronomically with the planet Mercury (*Budha*) (5), the Moon (*Soma* or *Chandra*) (2) and the planet Mars (*Mangala, Kuja* or *Angaraka*) (9). When reduced it produces seven (5 + 2 + 9 = 16 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7).

Five-hundred-and-seventy-six: is a number whose √ is 24. It is exemplified in: the number of pada in the *Vipragarbha Mandala* (24 √ 576). As a compound number it is associated astronomically with the planet Mercury (*Budha*) (5), the planet *Ketu* (the descending node of the moon) (7) and the planet Venus (*Shukra*) (6). When reduced it produces nine (5 + 7 + 6 = 18 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Six-hundred-and-twenty-five: is a number whose √ is 25. It is exemplified in: the number of *pada* in the *Vishvesha Mandala* (25 √ 625). As a compound number it is associated astronomically with the planet Venus (*Shukra*) (6), the Moon (*Soma* or *Chandra*) (2) and the planet Mercury (*Budha*) (5). When reduced it produces four (6 + 2 + 5 = 13 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

Six-hundred-and-seventy-six: is a number whose √ is 26. It is exemplified in: the number of *pada* in the *Vipulabhoga Mandala* (26 √ 676). As a compound number it is associated astronomically with the planet Venus (*Shukra*) (6) and the planet *Ketu* (the descending node of the moon) (7). When reduced it produces one (6 + 7 + 6 = 19 = 1[0]) and, therefore, the Sun (*Ravi* or *Surya*) (1).

Seven-hundred-and-twenty-nine: is a number whose √ is 27. It is exemplified in: the number of *pada* in the *Vipratikanta Mandala* (27 √ 729). As a compound number it is associated astronomically with the planet *Ketu* (the descending node of the moon) (7), the Moon (*Soma* or *Chandra*) (2) and the planet Mars (*Mangala, Kuja* or *Angaraka*) (9). When reduced it produces nine (7 + 2 + 9 = 18 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Seven-hundred-and-eighty-four: is a number whose √ is 28. It is exemplified in: the number of *pada* in the *Vishvalaksha Mandala* (28 √ 784). As a compound number it is associated astronomically with the planet *Ketu* (the descending node of the moon) (7), the planet Saturn (*Shani*) (8) and the planet *Rahu* (the ascending

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

node of the moon) (4). When reduced it produces one (7 + 8 + 4 = 19 = 1[0]) and, therefore, the Sun (*Ravi* or *Surya*) (1).

Eight-hundred-and-forty-one: is a number whose √ is 29. It is exemplified in: the number of *pada* in the *Viprabhaktika Mandala* (29 √841). As a compound number it is associated astronomically with the planet Saturn (*Shani*) (8), the planet *Rahu* (the ascending node of the moon) (4) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces one (8 + 4 + 1 = 13 = 4) and, therefore, the planet *Rahu* (the ascending node of the moon) (4).

Nine-hundred: is a number whose √ is 30. It is exemplified in: the number of *pada* in the *Vishveshasara Mandala* (30 √ 900). As a compound number it is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*) (9). When reduced it produces nine (9 + 0 + 0 = 9) and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*) (9).

Nine-hundred-sixty-one: is a number whose √ is 31. It is exemplified in: the number of *pada* in the *Ishvarakanta Mandala* (31 √ 961). As a compound number it is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*) (9), the planet Venus (*Shukra*) (6) and the Sun (*Ravi* or *Surya*) (1). When reduced it produces seven (9 + 6 + 1 = 16 = 7) and, therefore, the planet *Ketu* (the descending node of the moon) (7) .

One-thousand: represents endlessness. It is exemplified in: The Thousand Buddhas (Tib.: *Sangs-rgyas sTong*); the Thousand-Armed Thousand-Eyed *Avalokiteshvara* (Tib.: *sPyan-ras-gzigs Phyag-sTong Spyan-sTong*); the thousand names of *Vishnu* (Indic.: *Vishnusahasranama*); and the thousand names of *Parvati* (Indic.: *Parvatisahasranama*). Additionally, it is represented by the *Sahasra Dala Kamala*, beyond the *Ajna Chakra*. It is associated astronomically with the Sun (*Ravi* or *Surya*) (1). Visually, it is represented by a lotus-form of enumerable petals.

One-thousand-and-twenty-four: is a number whose √ is 32. It is exemplified in: the largest number of *pada* used in constructing a *mandala* (*Indrakanta Mandala*). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) (1), the Moon (*Soma* or *Chandra*) (2) and the planet *Rahu* (the ascending node of the moon) (4). When reduced it is associated with the planet *Ketu* (the descending node of the moon) (7) (1 + 2 + 4 = 7).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Astrology and Astronomy

The heavens held many mysteries for the Buddhists and the Hindus. Important sites were established for the study of the heavenly bodies. The observation of heavenly bodies as a science dates to the earliest times. The observations of the planets and the progress of the moon was remarkably precise. Their journeys across the sky was plotted and tables were drawn up to aid in the prediction of their next appearance. There was a certain degree of social tranquility in the established knowledge of these predictable progressions. The various crops were planted at predicted, auspicious times depending upon the solar/lunar cycles. Animal husbandry and the breeding of livestock was undertaken at particular junctures to insure their production in the spring or at the advent of the rainy season.

The earth was the center of the known universe. The sun, moon and planets circled this terrestrial orb in their slow and sure progress. When an unexpected occurrence appeared in the heavens--e.g., a comet or an eclipse--it was seen to foreshadow an event of major significance, frequently of a catastrophic nature.

As with many early civilizations, important planets were anthropomorphized and deities were associated with them--i.e., the Sun was associated with *Ravi* or *Surya*; the Moon with *Soma* or *Chandra*; the ascending node of the moon with *Rahu*; the descending node of the moon with *Ketu*' the planet Jupiter with *Brihaspati* or *Guru*; the planet Mercury with *Budha*; the planet Venus with *Shukra*; the planet Saturn with *Shani*; and the planet Mars with *Mangala*, *Kuja* or *Angaraka*. These are the *Navagrahas*.

Two bodies were seen as of major importance--i.e., the sun and the moon. Of these two, the moon is represented by three forms: 1) *Soma* or *Chandra* , 2) *Rahu*, and 3) *Ketu*. The changing face of the moon instilled special significance into this orb. Its progress of twenty-eight days, established the mo(o)nth, and its relationship to the changing seasons, the lunar year.

Navagrahas refer to the nine Hindu gods who represent planetary or astrological forms. The *Navagrahas* are believed to influence not only individual lives, but also the course of nations. One may find shrines dedicated to these nine deities in numerous temples. This is particularly evident in *Shaiva* temples in the south of India and in areas populated by the Tamils. The normal arrangement of the *Navagrahas* is with the Sun in the middle and the other eight arrayed around at the cardinal and intercardinal points.

Astrology played a vital role in *Tantric* practices, both Buddhic and Hindic and is particularly important in the *vamachara*. *Ravi* or *Surya*, the Sun, is the life giving force and always faces east, the masculine direction and is represented by a red disc. *Soma* or *Chandra*, the Moon, rules over the night and is the major feminine influence, although *Soma* and *Chandra* are masculine. The Moon is represented by a opalescent crescent. *Rahu* and *Ketu*, the ascending and the descending node of the moon, are inauspicious deities. Jupiter in the form of *Brihaspati* or *Guru*, is the deity associated with knowledge. *Budha*, the planet Mercury, who is seen as the child of *Tara*, wife of *Brihaspati*, fathered by *Chandra*, is represented by a bright green drop-form. Venus is incarnate in *Shukra*, a deity with a passionate nature who is shown by a bright blue pentagram. Saturn, as *Shani*, is an ominous deity represented by a deep purple circle. The puissant planet Mars (*Mangala*, *Kuja* or *Angaraka*) is shown as a vermilion triangle.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Additional Iconic Considerations

Non-Congregational

In part, as has been stated above, one of the obvious differences between Buddhism and Hinduism with the later religions is that they are basically non-congregational. Both religions are centered around individual worship practices (Indic: *puja*) rather than mass gatherings. This has influenced the development of the various temple plans in rather obvious ways. Certainly, there are times or holidays in which large groups of worshipers gather together, but these are not of a regular nature nor are they mandated by the specific religion--e.g., the twelve year cyclic celebration of *Kumbha Mela* for the Hindus, or *Wan Atthami*[31] for the Thai Buddhists. In the case of both Buddhism and Hinduism there are numerous forms of worship for "merit" that are performed individually by the faithful--the daily offerings and prayers at family shrines, the worship at temples on auspicious days, etc.

Large unencumbered, enclosed spaces for mass worship are generally not to be found within the countries where these two religions are largely practiced. If one accepts the adage "form follows function," which is as apt as any, one may ask, "Is function affected by another parameter?" Did the limited technical ability--i.e., the lack of the ability to enclose large, visually uninterrupted space--of early mankind dictate the function? Was the genesis of Buddhist and Hindu theology-philosophy constrained or directed away from a congregational approach due to the lack of technical knowledge? We may never know. If, however, this were the case, then we must expand the adage to read: form follows function follows technical ability.

The assembly porches or spaces (Indic: *mandapa, mantapa*) of the South Indian temples and their attached sanctuaries (Indic: *garbha-griha*) are relatively small in area. This is true of the north Indian *mukhashala* as well. Likewise, the inner assembly areas of Buddhist temples, whether *Theravada* or *Mahayana*, similarly, do not offer large unencumbered spaces. These spaces, at the most, can accommodate a few score rather than hundreds, and where somewhat larger areas do occur, there are frequently intervening columns which do not aid in direct visual access to the sanctuary. This fact is largely at variance to the open naves of the Christian church or the unencumbered domed spaces of the Islamic mosque. The former utilized a variety of structural devices--e.g., barrel vault, groin vault, rib vault and domed space--whereas the latter generally utilized vast domed areas.

Further, the climatic conditions of Southeast Asia is unlike the temperate to cool climes of Europe and North America obviates the need for large enclosed spaces. The large spaces for those isolated times when masses need to, or do congregate is climatically not necessary. The worshippers can be accommodated in the large open courts which often surround the temples proper. Even in the larger enclosed spaces of the Thai *viharn* (*wiharn*), particularly at the time of the *Khao Barnsa*[32] festival, scores may congregate. Yet, there are frequently many more standing or sitting outside the *viharn* and within the walled precincts of the *wat* during the propitious times of worship. The greater number of the hundreds of thousands of devotees who assemble at the shrine of *Murugan* at the Batu Caves, Kuala Lumpur, during the annual *Thaipusam* festival are not able to gather within the large central cave (a natural *mandapa* or *mukhashala*), but they are easily if not altogether comfortably enclosed within the acres of the precinct of the whole shrine-temple complex.

The High Place

Religions, universally, have placed great importance upon a high place, a physical area that is close to the god(s). In both Buddhism and Hinduism, the concept of the "high place" is an important iconic consideration. Mount Meru (Sumeru) or Mount Kailasha, the center of the world, is venerated by both

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

religions. It is the locus of the world, the home of the gods. Mount Kailasha which is reputed to be the home of the Lord Shiva is also venerated by the *Vajrayana Buddhists* of Tibet and is second in importance to Mount Meru. Concrete representation of this concept, the holy mountain, finds varying forms in both faiths and also in the varying cultures of the area. The high point, the holy mountain becomes real in the myriad architectural representations.

The Christian West places great emphasis on the physical location of a church upon a high point or place. In Medieval Europe, particularly in important cities the high point(s) were utilized for the building of edifices of the two great powers--the church (spiritual) and the castle (temporal). Within the Judaic tradition, the high place is auspicious--Mount Sinai where Moses received the Commandments and the Tower of Babel where the unbelievers built an edifice to approach the deity, are also examples. The Christ Jesus utilized a high place in his famous "Sermon on the Mount," and went to the garden of Gethsemane to pray. The latter has traditionally been depicted as an elevated area, a mount. The deity exists, lives above, on high and the human attempts to approach that point either physically, spiritually or symbolically. Therefore, major shrines are built or established upon high ground or geographical prominences--e.g., the *Swayambhunath* of Kathmandu; the shrine of *Murugan*, Batu Caves, Kuala Lumpur; the shrine to *Venkateshvara* (*Balaji*) of the Tirupati Hills, Andhra Pardesh; *Borobudur* of Java; or even the modern *National Cathedral*, Washington, D.C.

In a number of instances where natural prominences do not exist, artificial mounds or terraces are created to accomplish the same end--e.g., the *Kandariya Mahadeo* of Khajuraho, the *Bakong* of Roluos; the *Chedi Wat Phukhao Thong*, Ayutthaya; or the *Chandi Sewu* of Prambanan. To approach the mount physically, therefore, becomes not only a cultural imperative but a religious imperative as well, one without exception.

If a high point was not available and if the construction of a mound or massive platform is not feasible, then of the form of the shrine or temple would have been of such a height as to dominate the surrounding structures, creating an artificial high place, the home of the gods. The spires of cathedrals, the domes of mosques, the towering *gopura* and the shrines of *Loro Jonggrang* all allude to the high place.

The Cave

Not only the sacred mount, but the holy cave becomes an important icon within the Buddhist and Hindu traditions. This is not unique to these faiths or region, numerous cultures view the cave with veneration. The holy womb, the place of isolation, the secret place, the sacred place which is as important a cosmological center as the high place finds architectural, and in come cases real manifestations in both faiths. As a seed planted in the fertile ground enlivens, sprouts, grows to maturity and bears fruit; so too, the devotee ensconced with in a cave, meditates and hopefully bears spiritual fruit.

As mentioned above, the *garbha-griha*, literally the womb, as well as the subtractive, monolithic[33] religious structures of Ajanta, Karli, Mahaballipurnam or Elura and various natural caves mirror this concern. The cave becomes an icon for the womb, an archetype, an arch-icon, if you will, of universal importance and regularity.

The cave, by nature, is a dark primordial, secret place also a place of mystery.[34] The veneration of the dark place, the place of cosmic power is unique to both the Buddhist and Hindu religious concepts. Within their metaphysical concepts, the human possesses, in part, an inherent cosmic dichotomy--male and female--a concept that is generally recognized in modern psychology. It is represented in the Hindu faith by the *yoni-lingam*, *shakti-shakta* and in the Buddhist faith by the *yin-yang*, as well as the *yab-yum*.[35]

Simplistically, the concept revolves around the male which is associated with the sun, day, light, seed (Indic: *bija*) and the idea principle, and the female which is associated with the moon, night, darkness, the ovum (Indic: *anda*) and the power or energy principle. Ideas with out proper energy are valueless, likewise power or energy without the direction of a cogent idea is also without value. The seed (semen) without the egg (ovum) is worthless, extraneous, and vice-versa. The cave, the dark place, the sacred womb where the hermit retreats to be spiritually energized, is cosmically vitalized. The seed grows in the womb.

It is believed within these two religious practices that in order to approach the deity these two principles must be balanced within each individual. If they are, the access to the divine is greatly facilitated.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The major world religions, including Buddhism and Hinduism, are generally patristic.[36] Yet, within the two faiths under consideration, it is the female symbol which seems to be the final locus, that to which one returns--the womb, the cave, Mother Earth.

The holy womb, the place of isolation, the secret place, the sacred place (the *garbha-griha*) finds viable parallels in the Christian tradition as well. The Roman Catholic liturgy refers to the "womb of the night" when alluding to the birth of The Christ, and certain traditions describe the stable of his birth as being a cave ("the Cave of Bethlehem"). The grave has womb-like connotations and is at times euphemistically and erroneously referred to as the "bosom of Abraham." "Earth to earth, dust to dust, ashes to ashes" obviously refers to this concept. And, as the phoenix rises gloriously from its ashes, so too, the spirit (or soul) ascends to be with The Absolute.

Numerous hermit-saints of Christianity are depicted as being associated with the cave. It becomes a hermitage for such as Saint Francis and Saint Jerome where they are able to retreat from the mundane in order to communicate with the spiritual, the Almighty. The Grotto of Lourdes where the Virgin Mary appeared also alludes to this iconic concept--in this latter instance it is most interesting as the appearance of the Virgin Mary was to a young girl, Bernadette. In the Old Testament tradition the cave is a place where faith is tested and renewed--e.g., Daniel in the den of lions. Even more literally, Jonah in the belly of the whale is tested and renewed. Nabi Mohamad sought and found solace in a cave, and he along with his followers found protection in a cave when they were pursued by their enemies. There are numerous other parallels in all the great world religions.

The Stupa

In Christianity the cathedral with its soaring spire is the preeminent architectural icon, in Islam it is the domed mosque with its minaret(s) and in Buddhism that honor is reserved for the *stupa* (Burman: *zeidi*; Indic: *chaitya*, Indon.: *dagoba*, Pali: *chetiya*, Thai: *chedi*, Tibet: *chöten*). Of all the various forms of religious structures that human cultures have produced the *stupa* is unique. It is a non-functioning, non-utilitarian work of architecture--non-functioning in that it is a solid mass of material, generally stone or brick or rubble, without enclosing space--even the pyramids were conceived as containing rooms for the remains of the pharaoh and the accoutrements that he would need in the afterlife. At most, the *stupa* may have contained a small, internal space to hold relics (Indic: *dhatu*) and/or ashes of an important person.

The evolution of the *stupa* form finds its genesis in the ancient past. The ashes of the deceased or a body would be protected from the elements or marauding scavengers by being buried under a pile of earth, sometimes further protected by stones heaped over the mound. Even within the Hindu tradition a deceased ascetic of known and proven sanctity would not have been be cremated but would have been placed in a yogic posture and covered with mother earth. A pillar, *linga*-like would have been placed atop the mound signifying the saints union with The Absolute.[37] Within Buddhism it symbolizes the link between the three worlds--i.e., heaven, earth and the nether regions,

As a typically Buddhist architectural form it denotes, *en plan*, the importance of the circle to that faith--i.e., a symbol of concentration. The cosmic-geometry of the Buddhist saw the circle as the complete form, having no beginning and no end, being mobile, unlike the static, sacred square of the Hindu.

The *stupa*, is seen not only as a burial monument, it is also a mystic container holding important images, various offerings and often sacred scriptures. More importantly the *stupa* is the phenomenal world's representation of the cosmic Mount Meru. It becomes, by its very form, the high place and in this sense an exoteric icon. In a number of cultures the *stupa* assumes a type of theological personification with the honorific terms *Hpaya* (Myanmar) or *Phra* (Thailand) translated as the "Lord"--e.g., *Nan-Hpaya*, Pagan and *Phra Chedi Luang*, Chiang Mai.

Its form may vary from country to country, but much of its iconography remains constant (See: **Plates 8 & 13-15**; See also: **Appendix I, Plates 105, 139 & 143**). In general, the *stupa* form consists of four sub-forms, as seen in *Stupa I*, Sanchi: a base, often drum-like or at times square (Indic: *medhi*), a hemisphere (Indic: *anda*), topped by a rectangular or transitional rectilinear form (Indic: *harmika*), and a spire or finial-like form (Indic: *chattravali*). The *medhi* vary in shape and proportion. It may be drum-like as in *Stupa I*, Sanchi; or it may sit upon layered terraces as in *Paya-*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

gyi Zeidi, Prome; or on a series of redented, layered, horizontal moldings as in the *chedi* of *Doi Suthep*, Chiang Mai. Other than merely elevating the *anda* to a place of visual prominence and importance as well as symbolic significance, the *medhi* also performs a practical function if not to focus a religious function--i.e., the rite of circumambulation (Indic: *pradakshina*). Therefore the *medhi* becomes a *pradakshinapatha* (See: **Plates 13, 14, 15, 55, 63** and **64**). Likewise the hemispherical form of the traditional *anda* may vary, acknowledging the importance of *Stupa I*, Sanchi; or it may appear bell-like as in *Sapada Zeidi*, Pagan; or elongated, redented and no longer circular *en plan* as in the *Chedi Wat Phu Khao Thong*, Ayutthaya. The transitional element atop the *anda* too assumes various forms from the square fence-like enclosure (Indic: *vedika*) as in *Stupa I*, Sanchi; a solid form (Indic: *harmika*), square or octagonal *en plan* as in the *dagaba* of *Borobudur*, Java, or as a cylindrical or circular layered form as in the *Mingala-zeidi*, Pagan. And, finally, the *chattravali* which may appear as a simple umbrella-like ornament as in the *Stupa I*, Sanchi; or elaborately layered as in *Cave # 19*, Ajanta; or as an unadorned conical from as in *Borobudur*; or a tall, thin spire composed of ever decreasing donut-like forms as in *Chedi Phra Pathom*, Nakorn Pathom. All refer back to the formal standard. Additionally, the *stupa* may be divided into three major sections representing three steps to Enlightenment (See: "*Stupa* Symbolism and Numerology," pp. 50-53).

The iconic significance of the Buddhist *stupa* has deep roots in the parent Brahmanic religion. The *stupa* has been likened to a cosmic personage, the body being the *anda*, the head the *harmika*, and the *chattravali* being the crown. One can see actual significance in this concept in the *stupas* of *Swayambhunath* and *Bodhanatha* (*Buddhanatha*) of Nepal, where a pair of eyes are painted on the four faces of the *harmika*. In this interpretation, it is certainly related to the *Vastu-purusha mandala*.

As a representation of the cosmos the exposed area of the *anda* represents the seven celestial spheres (Indic: *lokas*).[38] The seven spheres of the nether worlds (Indic: *patalas*)[39] are implied by the 'bottom half of the *anda*,' the half not seen. In addition the exposed half which is in the light assumes male symbolic significance--i.e., male is light, sun, right, idea--while the implied bottom half is in the dark, female--i.e., female is dark, moon, left, power or force. Where the image of a *stupa* is a circle, *en plan*, its visible form is hemispherical, and its implied (cosmic) form is a sphere. It becomes a form of The Absolute, which as the circle has no beginning and no end, is complete in itself, and encompasses 360° in any and all of its countless directions and axes. The phenomenal world is in the center, between these spheres. The *harmika* is, in some cultures, referred to as a 'throne.' In Thailand the *hamika* (Pali) may be colonnaded, a small shrine. The *chattravali* is seen by a number of scholars as an Aryan post or meeting tree.[40] In some instances, this 'post' physically passed through the *anda*. It, therefore, becomes a cosmic axle (axis) around which the two worlds--celestial and phenomenal--revolve. In Thailand the *chattravali* becomes a tall, thin spire, composed of a number (thirty-three) donut shaped receding forms. In this it represents the thirty-three heavens. However, if the *harmika* is a throne, then the *chattravali* becomes a royal parasol (Indic: *chattra*).

Finally, the *stupa*, an icon massive at times, defies categorization. It is not architecture in the traditional sense--i.e., the art of enclosing space--as internal space is not its *raison d'être*. In form it is closer to the definition of sculpture, albeit abstract, nonrepresentational. Yet, here too, it far from acknowledged standards. The *stupa*, like the obelisks of Egypt or the triumphal arches of Rome, exists as an iconic memorial for all to see and in which all may marvel.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Mandala

Magic Squares (*mandalas*)
Vastu-purusha Mandala
Manduka Mandala
Paramashayika Mandala
Circular *Manduka Mandala*
Vajrayana Mandala
Vajradhatu Mandala
Stupa Symbolism and Numerology
Gyantse Kumbum, Gyantse
Garbha-griha Plan
Ancillary Shrine Plan
Temple Plan

Magic Squares (mandalas)

The place and role of the *mandala* in Buddhist and Hindu architecture is central and paramount. It is the conceptual and real foundation from which each and every ecclesiastical structure is based. Unlike Christianity which utilized the cruciform plan, with its numerous variations,[41] for its major liturgical structures--e.g., cathedrals, basilicas, abbeys, etc.--but not always in lesser churches. The Buddhists and Hindus invariably employed the *mandala*. To conceive of and/or to construct a temple or shrine without the prime consideration of a *mandala* was absolutely antithetical to their beliefs.

The term *mandala* refers to form of a corporeal nature, coming from the Sanskrit *manda-* meaning 'core' and *-la* meaning 'container.'[42] It is also defined as "the sphere of nurturance of the essence."[43] As the "core container," or the form of a corporeal nature. It becomes the basis for not only the design of temples and other three-dimensional *mandalas*, but also for two-dimensional *mandalas* (Tib.: *Thang-ka*) (See: *Vajrayana Mandala*, below).

India was not an isolated or insular civilization. It participated in trade through the vast Asian continent. In so doing, India had contact with the other major civilization of the area--China. India's influence upon the region, particularly Southeast Asia was in many respects more profound than that of China.

Yet, between these two great civilizations, there were many instances of commonality. In particular, there appears to be a viable correlation between the

4	9	2	15
3	5	7	15
8	1	6	15
15	15	15	

Figure 3: magic square (nine *pada*)

"magic square" of the ancient Chinese and the *mandala* of Hindu architectural application. These "magic squares" were not merely intellectual curiosities, but were considered to be cosmologically potent forms

16	2	3	13	34
5	11	10	8	34
9	7	6	12	34
4	15	16	1	34
34	34	34	34	

Figure 4: magic square (sixteen *pada*)

or icons which held great truths and power as well.[44] They exhibit a consecutive series of numbers within a given form, the sum of which in any direction is the same. The "magic square,"[45] first associated with the ancient Chinese Emperor Yu (2205-2198 BCE) is a nine

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

pada square and centered around the mystic number five (5), the sum of the vertical, horizontal and diagonal equals fifteen (15) (See: **Figure 3**). A later "magic square" which appears in a number of Asian cultures is a sixteen *pada* square, the sum of the

6	7	2
1	5	9
8	3	4

Figure 5: *Surya yantra*

vertical, horizontal and diagonal equals thirty-four (34) (See: **Figure 4**). In both cases the numbers fifteen and thirty-four have mystical significance. Fifteen denotes cosmic completeness (5 + 5 + 5 = 15, 3 x 5 = 15). It is exemplified in the fifteen world planes--six in *Kamaloka*, five in *Rupaloka* and four in *Arupaloka*, and is the sum of the various directions in a nine *pada* magic square. In addition, it is associated with: the Sun (1), Mercury (5) and Venus (6). Thirty-four is a composite number. It is exemplified in: the sun + the moon + the five planets + the 27 *nakshastras*. As a

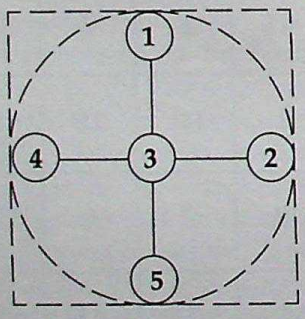


Figure 6: cardinal points (four *pada*)

compound number it is associated with: Jupiter (3), *Rahu* (4) and *Ketu* (7).

This form--i.e., the "magic square"--was also employed by the Hindus in the construction of *yantras*, mystical diagrams ascribed to certain deities which possessed magical powers. In particular, the *Navagrahas* (Nine Planets who are Sun, Moon, Mars, Mercury, Jupiter, Venus, Saturn, *Rahu* and *Ketu*) exhibit *yantras* all of which are nine *pada* "magic squares" utilizing different sequences of numerals for each deity. The Sun (*Surya*) *yantra* displays a square similar to the one illustrated above, but the numbers are in a slightly different alignment, yet the sums are the same (See: **Figure 5**).

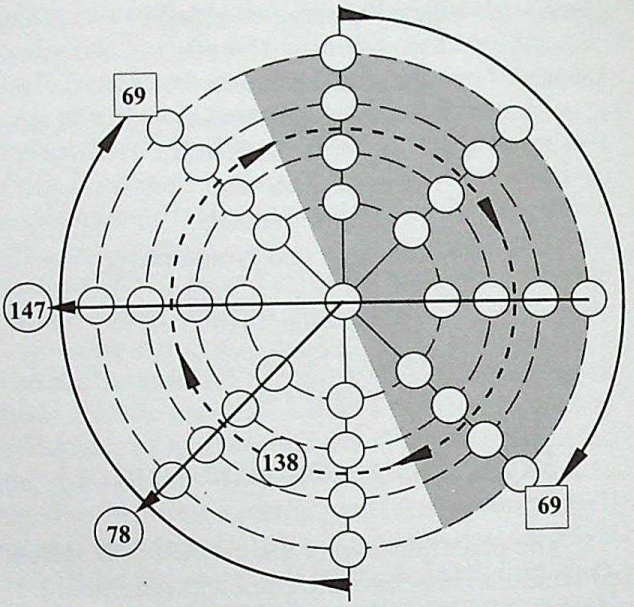


Figure 7: magic circle/*mandala* sum sequence

A further application to Hindu cosmology and iconography is seen in a directional application. **Plate 1-a** -- *mandala*, a four *pada mandala*, would utilize the sequence of numbers of one through five (1-5) in an arrangement in which the sum of either direction is nine (See: **Figure 6**). **Plate I-b** -- *mandala*, in which not only the cardinal points, but also the intercardinal points are indicated would utilize a nine *pada* "magic square" as is shown in **Figure 3**, above, which is different from **Figure 5**.

A magic circle/*mandala* (See: **Plate 1-c**) based on the cardinal and intercardinal points resembles closely the circular *Manduka Mandala* (See: **Plate 5**) and centers on the complete, mystic number nine (9). The numerical sequence of this magic circle/*mandala* is one through thirty-three (1-33), and the sum of each arm from the center nine (9) out-- i.e., five numbers--equals seventy-eight (78) or one-hundred-forty-seven across in any direction (147) (See: **Figure 7**). In addition, each circle of numbers amounts to one-hundred-thirty-eight (138). There is a further phenomenon in that if one chooses any circle and begins with either the top

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 1 -- *Magic Mandalas* (circular)

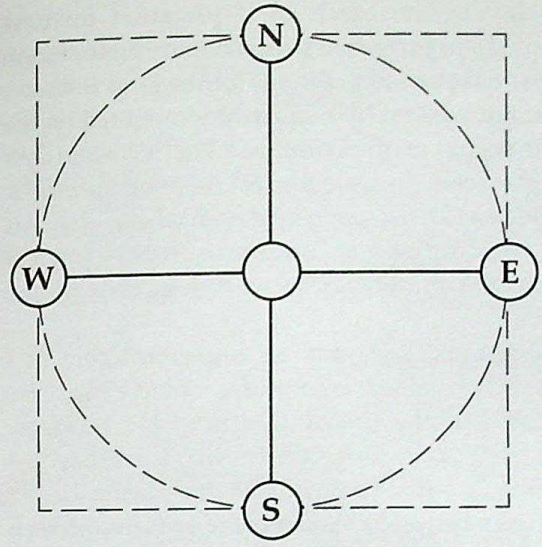


Plate I-a -- *mandala*

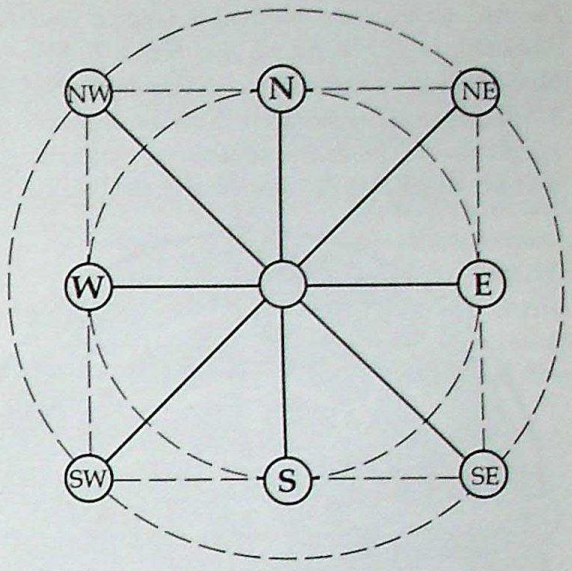


Plate I-b -- *mandala*

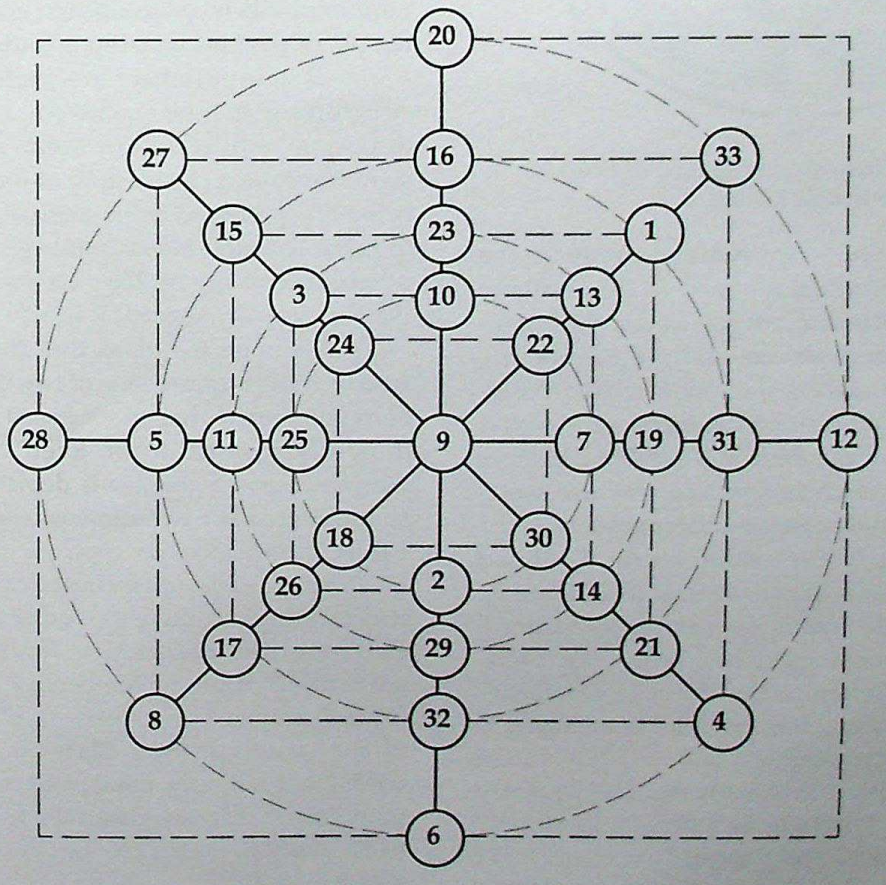


Plate I-c -- magic circle/*mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(north) or bottom (south) numeral and follow clockwise--e.g.., N, NE, E and SE, or S, SW, W and NW--the sum is the same, sixty-nine (69) (See: **Figure 7**, shaded or clear portion). Both the sequence of five numbers--i.e., from the center out--with the sum of seventy-eight and the sequence of the half circle with

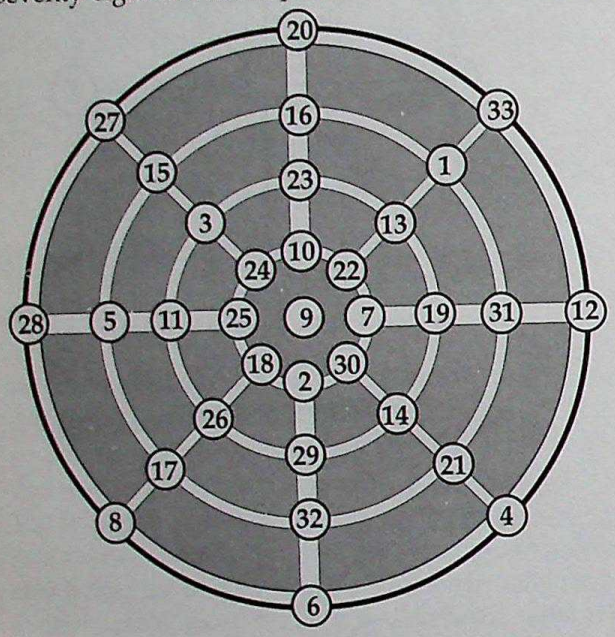


Figure 8: magic circle/*mandala* applied to a circular *Manduka Mandala*

the sum of sixty nine when reduced produces the macrocosmic and spiritual number, six (6). Similarly when the sum of the nine integers in any direction--i.e., one-hundred-forty-seven--and the sum of any complete circle of numbers--i.e., one-hundred-thirty-eight--are reduced, the resultant numeral is the perfect three (3). The use of numbers in a symbolic manner as an application to architecture, in a very real sense, gives concrete form to abstract concepts.

At the core of the architectural designed *mandala* is the *Vastu-purusha Mandala* (See: **Plate 2**). The term *Vastu-purusha* is defined as existence.[46] Therefore, in its most simplified sense, the *Vastu-purusha Mandala* refers to the 'form of existence.' However, this existence does not refer to the material world, but the higher realms.

It is manifested in the square. The square is considered by the Hindu to be a perfect, immutable form and a physical manifestation of the *mandala*. The square represents The Ultimate, The Absolute of a higher level. The earth in it physical form is represented as a circle, however, if it is a representation of *Brahma*, as opposed to *Brahmá* (or the Lord *Brahma*), then it is represented by a square and oriented on the cardinal points of the compass. The term *purusha* specifically refers to male form.[47] As man, *purusha* is represented as an old, deformed man whose body fits within the confines of a square. In this form it represents the immutable laws which govern all--the cosmos.[48]

Numbers, too, play an important role in a *mandala*. Specifically, the sum of a *mandala*'s squares (Indic: *pada*) is the square of any of the numbers ranging from one through thirty-two (1-32)--e.g., 1, 4 (its √ being 2), 9 (its √ being 3), 16 (its √ being 4), etc., to 1,024 (its √ being 32). A *mandala* of sixty-four *pada* is known as the *Manduka Mandala* (See: **Plate 3**) while one with eighty-one *pada* is called a *Paramashayika Mandala* (See: **Plate 4**). These two *mandala* forms are considered as being highly auspicious particularly in northern India when the design and construction of a temple or place of worship is undertaken.

Certain numbers are preferred for specific structures--e.g., one square for a hermit's place of devotion--while others seem to have regional significance--e.g., a structure of forty-nine *pada* (its √ being 7) is preferred in the south of India and referred to as the *Sthandila Mandala*. Likewise, in the south the *mandala* consisting of 256 *pada* (its √ being 16), called the *Padmagarbha Mandala*,[49] is also propitious.

Although the plans that are presented herein tend to give the impression of two dimensions, it must be remembered that the *mandala* is conceptually a three dimensional form. Even when confronting *thangkas* where a *mandala* is depicted, they too must be considered as a two-dimensional representation of a three dimensional concept.

When a *mandala* is chosen and used to lay out a structure there are numerous other considerations. For example, the intersecting lines of the *mandala*, particularly those of the central area occupied by *Brahmá*, may not be crossed or interrupted by those of the structure (See: **Plates 3, 4 & 10**). This is considered not only inauspicious but will result in poor design. Various geometric forms are employed in the design of a temple--i.e., circles, triangles (See: **Plates 10 & 11**).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Mandala (Concluded)

Finally, rather complex equations are also employed to arrive at the proper proportions, starting date, alignment and social standing (caste) of the donor, as has been noted above. One further iconographic reality must be acknowledged. That is, within the Hindu tradition, the *mandala* exemplifying the celestial worlds is a square, perfect and immovable. Its boundaries are the first to be established. The phenomenal world is represented by the circle in this cosmic duality. By inscribing a circle around the *mandala* in the preparation of a temple plan, the two worlds are united into a cosmological whole (See: **Plates 10 & 11**). The resulting structure is a model of the universe, conceptualizing the idea of The Divine, The Absolute and the cosmos.

The *Buddhist* tradition with its foundations firmly rooted within *Brahmanic* beliefs also adhered to the concept of a *mandala* as the basis of design for their ecclesiastical structures. The later practices--*Mahayana* and *Vajrayana* (See: **Plates 6 & 7**)--expanded the design possibilities as well as the religious/cosmological significance to the point that several thousand designs existed. There does, however, appear to be two *mandalas* that were particularly popular within the region under consideration and particularly within Java--i.e., the *Dharmadhatu Mandala* (Matrix World *Mandala*) and the *Vajradhatu Mandala* (Diamond World *Mandala*).[50] Specific requirements were requisite for the production of each *mandala* whether two-dimensional or three dimensional (See also *Borobudur*).

As a cosmological manifestation, or as the design basis for a temple, or as both, the *mandala* with all its permutations, held greater import for the Hindu and Buddhist than any other element had for any other religion even into the modern period. It is the nexus of these two belief systems and the locus of the theological-cosmological centered design.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Vastu-purusha Mandala

At some point, in the far distant past, an entity, a being blanketed the earth and sky creating havoc for all. The gods went to *Brahmá* to seek his assistance. He, with the help of the other deities subdued his entity and forced it, face down onto the ground. *Brahmá* named it *Vastu-purusha* and the accompanying deities anchored its various parts all of which fall within a square. Thus, the myth of existence was established. To the Hindu, *Brahma* (as opposed to *Brahmá*) is Immutable, and Absolute and is represented by a square. The circle which denotes movement was an unacceptable form. The square becomes, therefore, a representation of The Absolute, the impressing of *Vastu-purusha* and the anchoring deities upon the square establishes both a visual (real) manifestation of the workings of the cosmos, but also a more important mystical representation.

Within Hindu cosmology, as it applies to sacred architecture, any structure from the simplest hermits retreat to the most elaborate and grand temple must conform to the *Vastu-purusha mandala*. The temple is the link, the intermediary in a very real sense between man and The Absolute. To facilitate that linkage the temple must conform to certain mystic and cosmic rules.

The *Vastu-purusha mandala* seen in **Plate 2**, is based upon the number nine (3 x 3 or 3 + 3 + 3),[51] known as a *Paramashayika Mandala* (See also: **Plate 4**). It is an important symbolic number. Nine denotes the completion of perfection. It is represented by the nine orifices of the body and the gestation period of the human being which is nine months. The square is divided into three parts horizontally and vertically and further divided into nine on the outside edges, totalling forty-two squares in all with the implied eighty-one *padas*.

Vastu-purusha refers to existence which was defined and formed by *Brahmá*. As a square it establishes its association with the celestial as opposed to the circle which is terrestrial within Hindu thought. The square, being a masculine form, is fixed and absolute. As noted above, the *purusha* (man) is imposed upon the square face down in submission and there he is symbolically held in place by the various deity-occupants of each *pada* of the *mandala*. This iconic figure (human, natural, associated with the circle, terrestrial) being thus represented on the square (celestial) indicates and confirms the cosmological laws that governs all. The sacred structure, whether simple or complex, must conform to the cosmos through the use of the *Vastu-purusha*.

The *mandala* involves time through its association with the zodiac and its orientation. As a cosmic key to secular structures, the *purusha* is conceived of as being in motion, rotating on its central axis. It accomplishes one revolution every calendar year with its feet pointed towards the sun. The idea of the *purusha* in motion as applied to secular buildings relates to the idea that the terrestrial/secular sphere is mutable and therefore not absolute. On the other hand, the *purusha* that is associated with sacred structures is immovable, static, absolute and immutable. It does not revolve but is eternally constant.

Numerous deities associated with points of the compass encircle the central, major squares occupied by *Brahmá* (See: **Plates 3 & 4**). These deities appear to vary due to locale and sectarian positions--e.g., the *dikapala* are generally noted as *Indra* (east), *Agni* (southeast), *Yama* (south), *Nirritti* (southwest), *Varuna* (west), *Vayu* (northwest), *Kubera* (north), and *Ishana* (northeast).

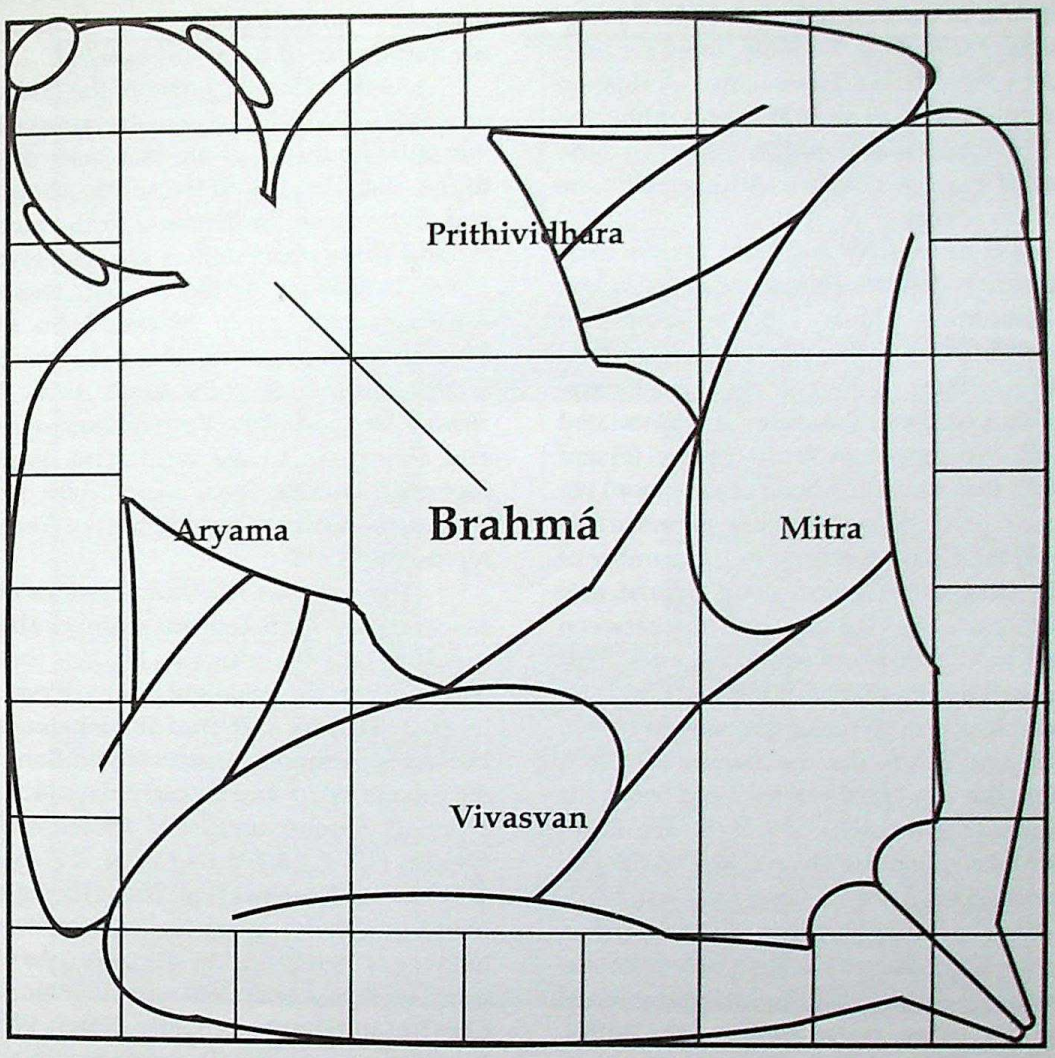
Additionally, within the constructed temple which is associated with not only the form of the deity but of man, the mundane world, the *purusha* is further represented in the names of various sections of the temple--e.g., *pada* (foot), *jangha* (shank), *gala* (neck), *nasika* (nose), etc. [52]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 2 -- *Vastu-purusha Mandala*

(HS)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Manduka Mandala

The *Manduka-mandala*, most popular in the north of India and one of the variations of the *Vastu-purusha mandala*, is constructed of sixty-four *padas*, eight to a side. *Manduka* is the Indic word for frog. The frog is an apt symbol as it lives in two worlds--on land and in the water--as well as representing the primordial frog--*Mahamanduka*, one of the *Dashavataras* of the Lord *Vishnu*. Additionally, the symbol signifies energy.

It is based upon sixty-four *pada*. Sixty-four is the numeral which denotes eternal blessedness and *karma*. This is a number whose √ is 8. It is exemplified in: sixty-four chapters in the *Rig Veda*; sixty-four pleasures of *Shiva*; the sixty-four *vidyas*; and the sixty-four *Yoginis*. As a compound number it is associated astronomically with the planet Venus (*Shukra*) (6) and the planet *Rahu* (the ascending node of the moon) (4), When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*) (1). Eight--referring to the number of *pada* per side--denotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This integer as even, is representative of motherhood. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature) being: *akasha, vayu, tejas, apa, kshiti, sattva, rajas* & *tamas*; the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges being: *sita, ushna, sukha, duhkha, iccha, sattva, rajas* & *tamas*; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). The even (feminine) eight is assigned to a powerful and often fierce masculine planet. This may be a referent to: "justice and balance between attraction and repulsion." It is visually represented by the octagon, or an eight pointed star. Numerous temples are initially based upon this *mandala*.

As the symbolic home of the gods, the central four *padas*--the *Brahmásthana*--are occupied by *Brahmá*. Surrounding this deity are four inner deities--*Aryaka* to the east, *Vivasvan* to the south, *Mitra* to the west and *Prithividhara* or *Bhudhara* to the north. Arrayed around these inner deities are: *Parjanya, Apavatsa, Jayanta, Mahendra, Aditya, Satyaka, Bhrisha, Savindra, Antariksha* and *Agni* to the east; *Indra, Pitri, Mrisha, Bhringaraja, Gandharva, Yama, Rakshasa, Sávindra, Vitatha* and *Pushan* to the south; *Vayu, Roga, Rudra, Shosha, Asura, Jaladhipa, Pushpadanta, Sugriva, Indraraja* and *Dauvarika* to the west; and *Naga, Mukhya, Rudraraja, Bhallata, Soma, Mriga, Aditi, Diti, Isha* and *Apa* to the north. Thus forty-five Vedic gods are represented.

The *Manduka Mandala* possesses other cosmic associations than the ones noted above. If one considers only the outer ring of *padas*, they amount to twenty-eight. Twenty-eight is a most potent numeral in both Hindu and Buddhist calculations and possesses enormous cosmic implications. It refers to the moon's cycle--twenty-eight days (4 x 7 = 28). It is a perfect number arrived at by the addition of its divisors (1 + 2 + 4 + 7 + 14 = 28). It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi, kamasugati-bhumi* & the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces again one (1) and, therefore, the Sun (*Ravi* or *Surya*).

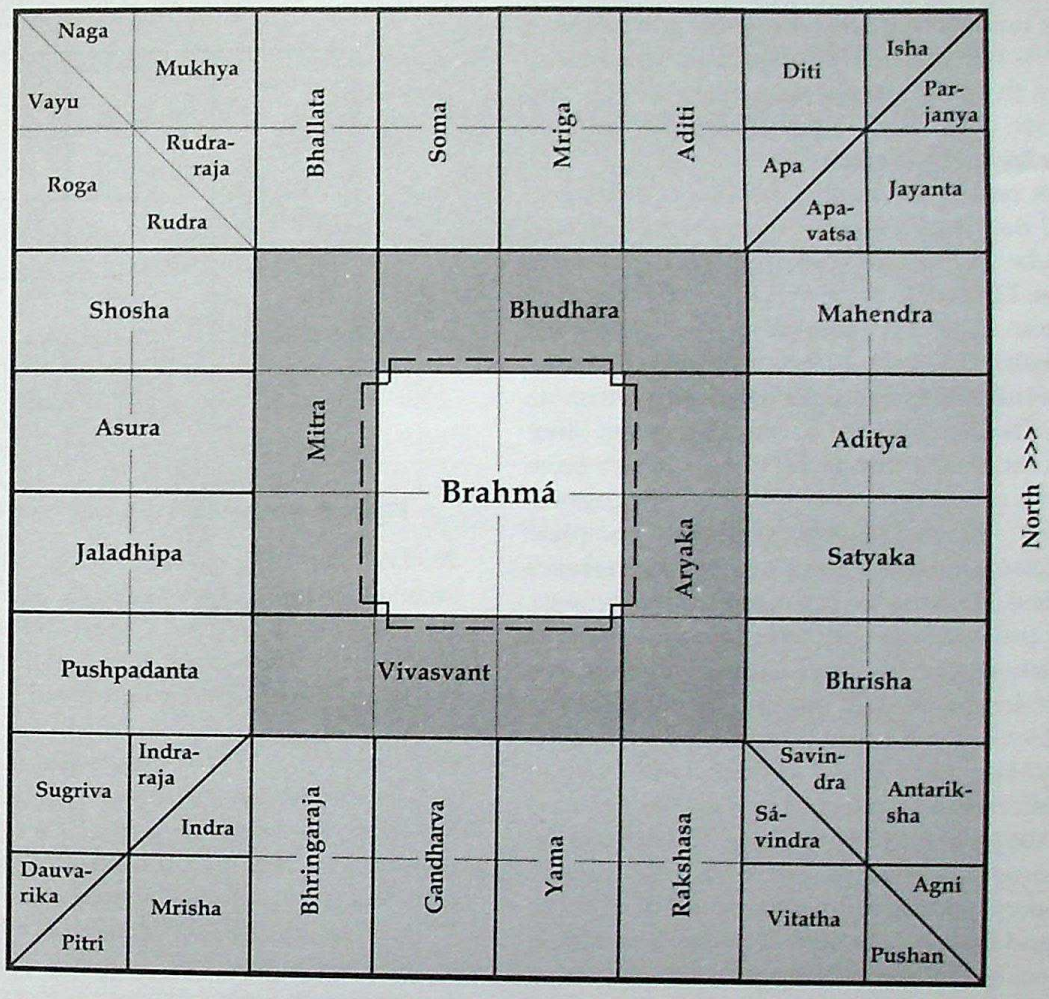
This *mandala*, as one of the two prominent *mandalas* utilized in the design of temples, shares the prominence of place with the *Paramashayika Mandala*. Temples dedicated to either *Vaishnava, Shaiva* or *Shakti* deities may utilize this form. Although, as stated above, it is most popular in the north of India.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 3 -- *Manduka Mandala*

(BD)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Paramashayika Mandala

(Deities' Abode)

The *Paramashayika Mandala*, one of the variations of the *Vastu-purusha Mandala*, is constructed of eighty-one *padas* (its √ being 9). As has been stated above the number nine has very potent symbolism. It is one of the two preferred or often employed *mandala* genre for the primary consideration, design and construction of temples in the north of India, the other being the *Manduka Mandala*.

Not only is the type of *mandala* important in the initial design of a temple, there are further vital factors to be considered. The *mandala* is the home of the deities. The center of the *mandala* (in this instance the nine central *pada*) is occupied by the deity *Brahmá* (See: opposite). The deity *Brahmá* represents *Brahma*,[53] The Absolute One, The Self-Born, The Ultimate Principle, The Eternal, The Universal Spirit, etc. Since *Brahma* is formless yet includes all forms, is infinite and finite, is static yet moves throughout the cosmos--the ability of many to comprehend its complete nature necessitated that elements of *Brahma*'s essence be embodied. The square is one of those embodiments.

In the *mandala*, this representation was accomplished with the inclusion of *Brahmá*, his surrogate in the central square. Occupying the adjacent area to the east is the deity *Aryama*, "he who is chivalry." He rules over the world of honor, nobility and the parameters of society. He was later included as one of the eight or twelve *Adityas*. The deity to the south of *Brahmá* is *Vivasvan* (var.: *Vivasvat*), "he who is resplendent" and his realm is the world of customs, morality and the law. Like *Mitra*, *Vivasvan* is an *Aditya*. To the west of the central deity is *Mitra*. Known as "the one who is the friend,"[54] an Indo-Iranian deity whose realm is the sun and related to *Surya*. He, too, was an *Aditya*. Finally, occupying the area to the north of *Brahmá* is *Prithividhara*[55] or *Bhudhara* who is associated with the earth.

Encircling these four inner deities are: four gods of a lesser status: *Isha, Pushan, Pitri* and *Vayu*. They occupy the intercardinal points and are related to the *Lokapalas*. To the east of *Aryama* or *Aryaka* are: Parjanya, *Apavatsa, Jayanta, Mahendra, Aditya, Satyaka, Savindra, Bhrisha* and *Antariksha*; to the south of *Vivasvan* are: *Indra, Mrisha, Bhringaraja, Gandharva, Yama, Rakshasa, Vitatha, Pushan* and *Sávindra*; to the west of *Mitra* are: *Roga, Shosha, Rudra, Asura, Jaladhipa, Pushpadanta, Sugriva, Indrajaya* and *Dauvarika*; and to the north of Bhudhara are: *Naga, Rudraraja, Mukhya,*

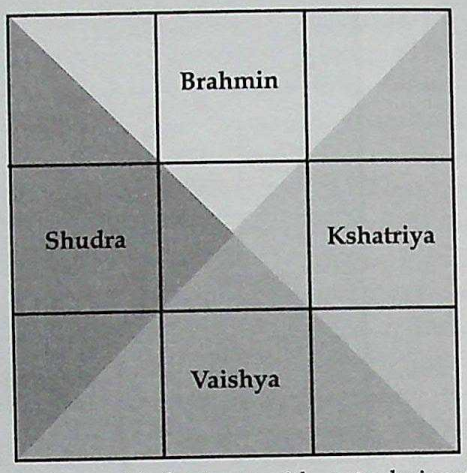


Figure 9: *mandala* for town with caste designation

Bhallata, Soma, Mriga, Aditi, Uditi and *Apa.* There are other placements of these deities. They are: *Indra* to the East, *Agni* to the South-East, *Yama* to the South, *Nirriti* to the South-West, *Varuna* to the West, *Vayu* to the North-West, *Kubera* to the North, and *Ishana* to the North-East. This additionally list varies--e.g., *Surya* may represent the South-West instead of *Nirriti*; *Surya* may represent the *East* instead of *Indra*; *Soma* may represent the North instead of *Kubera*; *Marut* may represent the North-West instead of *Yayu*; *Soma* may represent the North-East instead of *Ishana*.

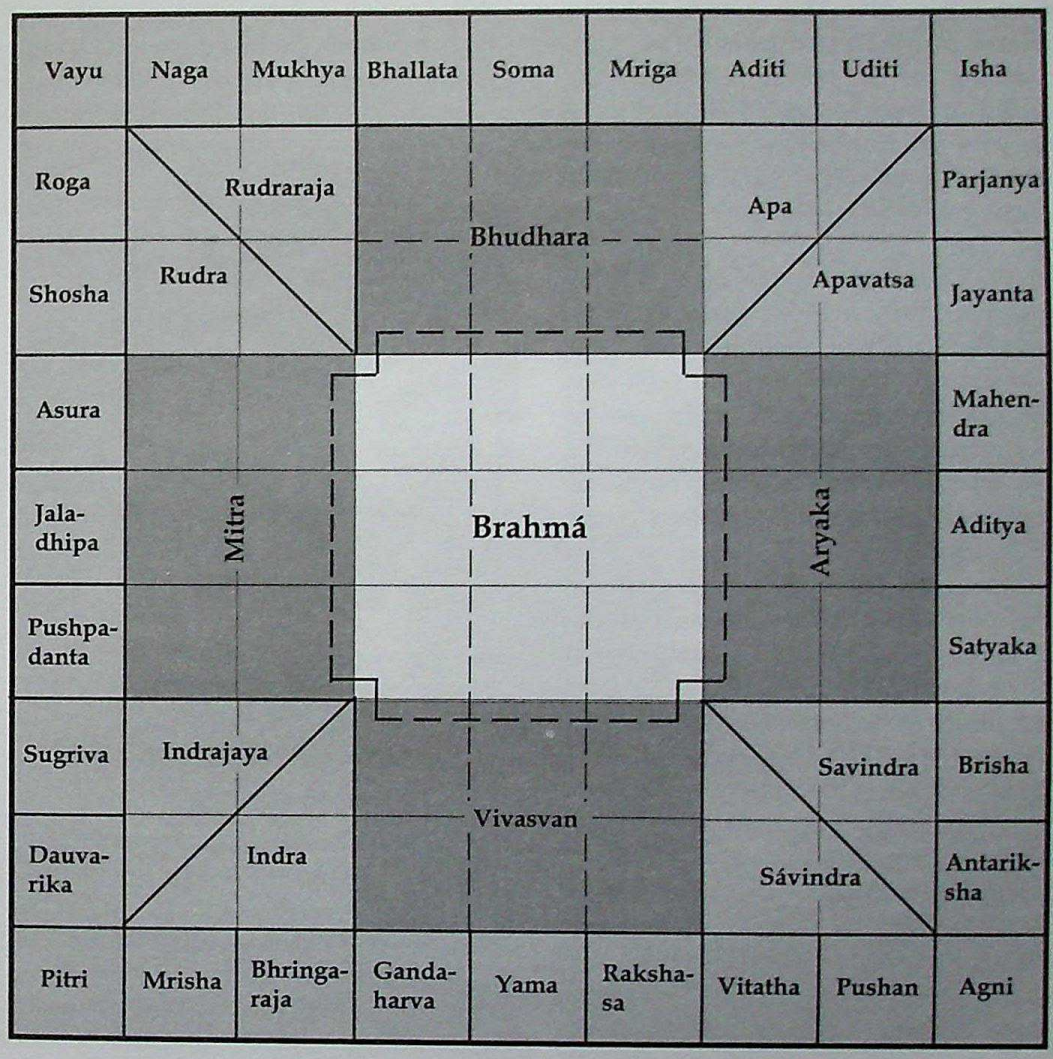
When the *mandala* is used, in a larger concept, to include the planning of a city, either square or rectangular, the same symbolism is applied. Further, in the *Brahmá* square a tree is planted and it becomes the intersection for the main east-west, north-south thoroughfares. If the city was designed to be inhabited by members of all four castes, then the *Brahmins* should occupy and work in the northern area, the *Kshatriyas* the east as well as the south east part, the *Vaishyas* the south of the city and the *Shudra* are relegated to the western district (See: **Figure 9**). There are variations, particularly if the city or town is planed for a specific caste, or if the city possesses a palace of a *Maharaja* or King.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 4 -- *Paramashayika Mandala*

(BD)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Circular Mandala

(City plan after *Manasara*)

(HS)

The circular *mandala* to the right is based upon the circular *Vastu-purusha Mandala* (*Manduka Mandala*)[56] (See: **Figure 10**). This *mandala* is based upon the *Manasara* plan for a circular city. The circle, as has been stated, for the Hindu represents the terrestrial world and possesses all the opposite characteristics of a square. Its employment in the planning of city is natural, and by modern standards (which, of course are based on ancient principles) is highly efficient.

The city plan revolves around a central circle, the *Brahmásthana*, in the center of which is to be planted a tree. This practice of a central tree or post was brought to India by the Aryans, and possesses not only a cosmic significance, but also obvious socio-political implications as it was the spot where the elders of the city would gather for important occasions and decisions--a place where the populous could congregate to receive important information or to celebrate. In this manner, the central circle or square with the tree or post served the people much in the same way that the medieval cathedral or town church served the Europeans. In addition, the tree or post possessed symbolically for the city what the *chattravali* iconically served to the *stupa*--i.e., the axis for the cosmic world. In that sense the tree links the real, temporal world with the cosmic, celestial world. Even though the cities of India, particularly before the British occupation, followed the square or rectangular form for the most part, this circular *mandala* presents a viable link to the circle preferred by the Buddhist.

As with any proper city, it is crossed from east to west and from north to south with a broad street, referred to as the "royal way."[57] These broad avenues served not only as ways for procession, they also are main arteries by which one may leave the city. In addition there are four other major streets, each in the direction of the intercardinal points which are wide enough for carriages and/or elephants to pass. As is to be noted there are three concentric rings which surround the inner circle. Each of these sections are bounded by a thoroughfare which connects the axial avenues, the outermost of which is a processional street which is itself bounded by the city wall. This street had religious importance as well, for during specific holidays an altar or a propitious image would be ceremoniously carried around the city in circumambulation (*pradakshina*). Beyond these there are any number of smaller lanes for easy access to and from the main thoroughfares. In a very real sense this plan imitated the circulatory system of the human body by which the blood (people) travelled from the smallest capillaries (lanes or alleys) to larger vessels (roads) and to the broad, fast flowing veins or arteries

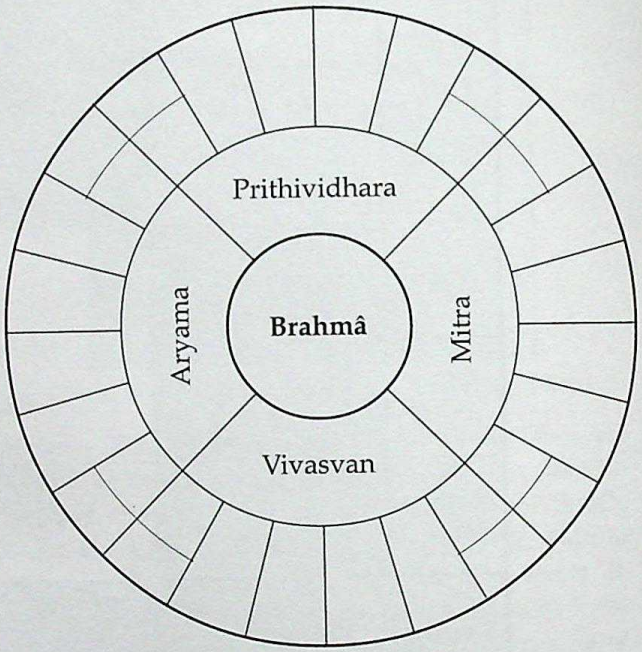


Figure 10: circular *Vastu-purusha Mandala*

(avenues). Thus divided, the circle with its circular avenues, cardinal and intercardinal streets is composed of twenty-four residential compartments or areas. It is exemplified in the total of the double hours of day and night.

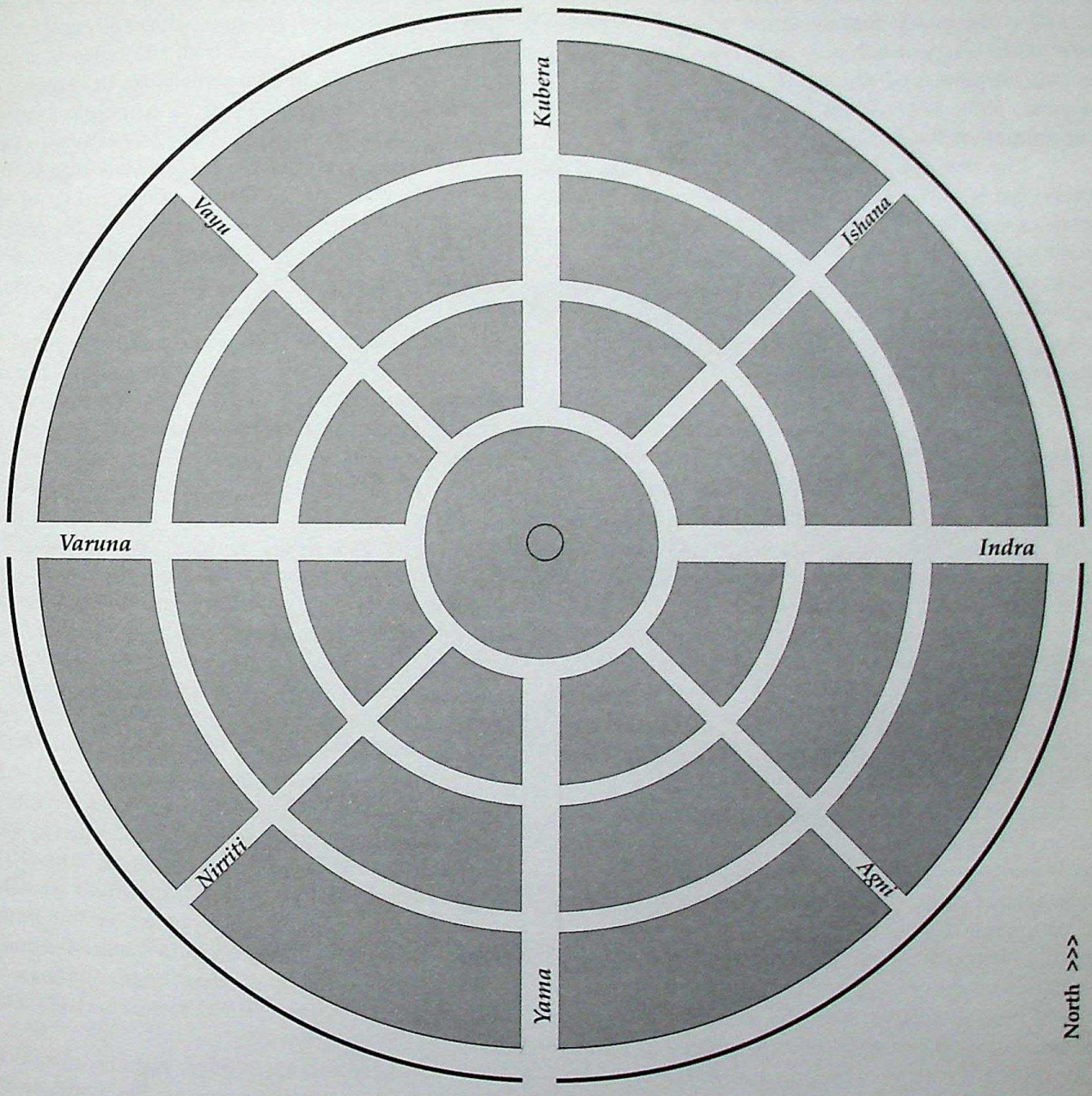
The radiating avenues at the cardinal and intercardinal points were guarded and dedicated to the *Lokapalas*--i.e., *Indra, Agni, Yama, Nirritti, Varuna, Vayu, Kubera*, and *Ishana*. These indicate one of the variations of the *Lokapalas*' designations. Finally, the disposition of the various castes is established according to set rules (See: *Paramashayika Mandala*, above). It is of particular note that the *Shudra* are placed in the western part of the city. Their work place, in many instances was beyond the city wall and in order to return home they generally would enter the western gate for easy access. Even though they were of the lowest caste, they worked with the soil, Mother Earth. The female point of the compass was the West. On returning home, they would walk towards the east, the male and/or idea direction.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 5 -- *Circular Manduka Mandala*

(HS)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Vajrayana Mandala

The *Vajrayana Mandala* is based upon the circular *Manduka Mandala* (See: **Plate 5**) and is strongly influenced by *Tantric* considerations. The *Tantric mandala* is the visual manifestation of an advanced cosmo-technology which aids in the facilitation and the establishment of an enlightened world. It is magical, it is sacred and it is a cosmological environment of the *Buddhas*.

The *mandala*, in two dimensional form, is represented by a *thangka* in which a sacred circle or circles appear surrounding a square. Within Buddhist thought, proceeding from Hindu cosmology, the outer circles through which the devotee must travel symbolizes the material world, the real world. The world that must be conquered before one can confront the deity and enter into the blissful realm of enlightenment.

There are rather precise configurations for the *Vajrayana Mandala*. These circles act as spiritual and cosmic protection for the inhabitants of the inner circle as well as barriers for the uninitiated. As in the many forms of Buddhist and Hindu art, orientation is important--i.e., the east to west orientation. This is so in the two dimensional *mandala*, however, the orientation is to the viewer, the east face is at the bottom of the *thangka*, south is to the left, west is at the top and north is to the right.

The outer ring (**A**)[58] consists of a band of brilliant flames (Tib.: *Mehi-hKhor-lo*) in five alternate colors. This circle is the Mountain of Fire (Tib.: *me-ri*) designed to deny access to the mysteries by the unenlightened spirit and those who are uninitiated into *Tantric* and *Vajrayana* practices. Symbolically these flames stand for the burning consciousness which, in the process of concentration, should consume all spiritual obstacles, impurities, wrong-thinking and the clouds of ignorance, permitting individuals to proceed from dualist thinking to Gnostic unity. Then follows the second ring (**B**), which consists of *vajras* (Tib.: *rDo-rje Ra-ba*). The *vajra* symbolizes the indestructible adamantine nature of pure consciousness, and it is the strongest symbol of the state of enlightenment that can be revealed in the *mandala*. This enlightenment, however, requires unity of spirit and the overcoming of all individual activities of the eight forms of consciousness. These eight levels of consciousness are esoterically represented in the third ring (**C**) by the eight cemeteries. This circle, however, is generally represented only in the *mandalas* of the wrathful deities. The surrender of all eight forms of consciousness associated with the illusory world of *Samsara* is symbolized by this circle of cemeteries each of which has as a *stupa* its principle symbol corresponding to the eight *Ashta-Mahachaitya* (Tib.: *mChod-rten-Che brGyad*). The penultimate ring is that of lotus petals (Tib.: *Pad-mahi Ra-ba*) (**D**) which frequently number thirty-two or forty-eight petals. These petals signify the harmonious unfolding of spiritual vision which is possible only in a pure consciousness. Finally a second ring of *vajra* (Tib.: *rDo-rje*) (**E**) gives way to the inner section of the *mandala*.

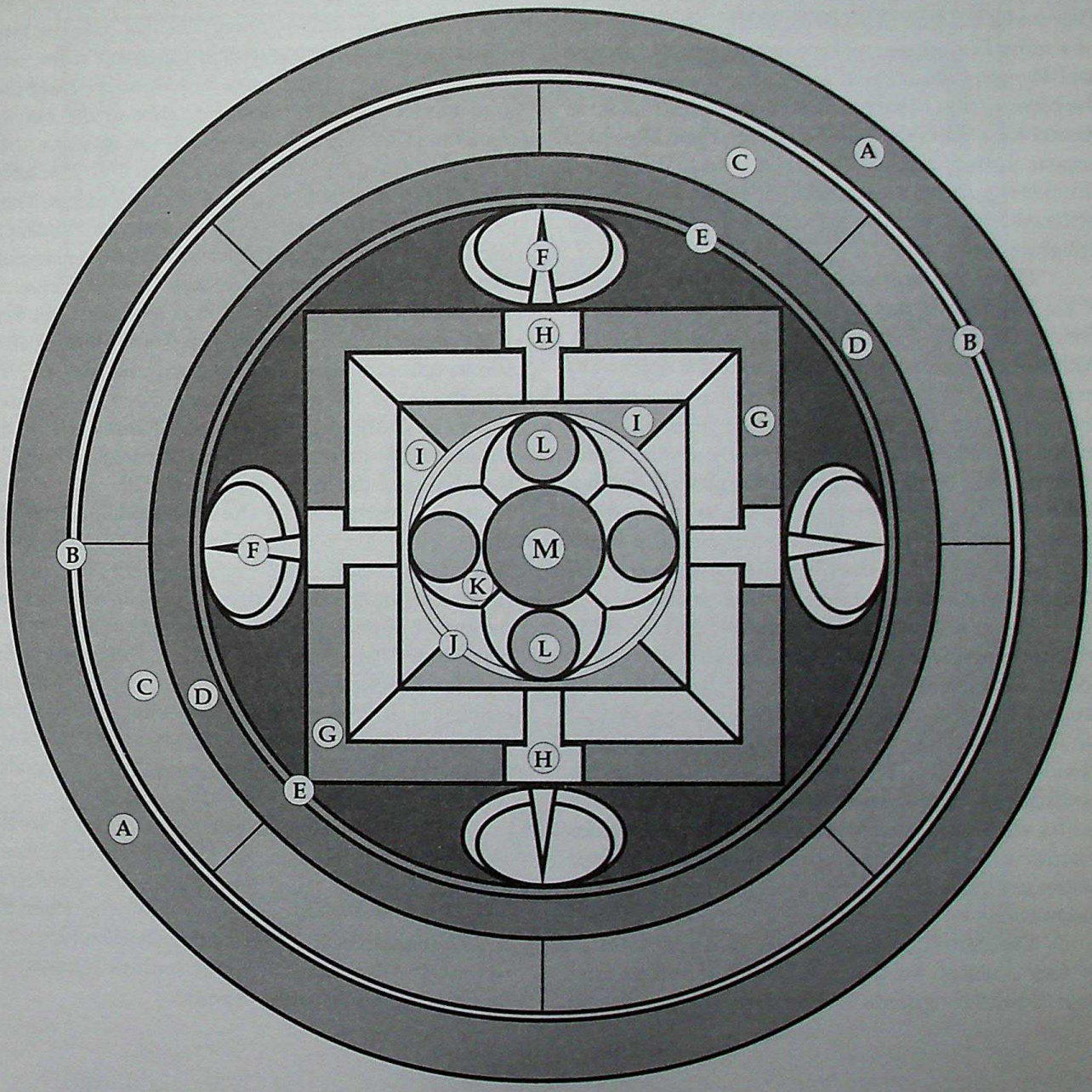
Having passed through the ring of flames and its stages of insight we now stand in proximity to the sacred area of the deities--the *mandala* proper. Its square plan (**G**), known as the Miraculous Divine Abode (Tib.: *Ngo-tshar lHai gZhal-yas Khang*), shows the four gates at the cardinal points of the compass which are enclosed by the points of a crossed diamond scepter (Indic: *vishva-vajra*; Tib.: *rDo-rje rGya-gram*) (**F**). The double *vajra* is the symbolic foundation for the square-shaped area of mystery. The walls of the temple (**G**) are in turn subdivided into five colored bands and decorated with ornaments. In all *mandalas* the walls of the outer courts show victorious and propitious symbols, such as the seven symbols of the universal ruler of the world (Indic: *saptaratna*; Tib.: *Nor-bu-chab-bdun*). The interior of the sacred city is equipped with four gates (**H**) and subdivided by two diagonals into four triangles of equal size (**I**); it contains a further circle with *vajra* symbols (**J**). This area encloses the lotus flower upon whose four petals (**K**) the *Buddhas* or other divinities who assume a protective role (**L**) appear. They frequently arise as emanations from/of the primal *Buddha* or deity at the center (**M**).

This center of the *mandala* is the creative locus of mystery. This energized center corresponds to the *Brahmásthana* of the Hindu *mandala*, or the sanctuary of the Christian church. This center is where shining visions of the *Buddhas* originate as rays from the void to illumine, preserve and defend the devotees.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 6 -- *Vajrayana Mandala*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Vajradhatu Mandala

(JM)

As *Vastu-purusha Mandala* embodies the basis for Hindu ecclesiastical architecture, the *Vajradhatu Mandala* ("Diamond World *Mandala*") along with the *Dharmadhatu Mandala* ("Matrix World *Mandala*") was of similar importance particularly for the *Mahayana* and *Vajrayana Buddhist*. It establishes a paradigm for the construction of sacred structures, terrestrial, three dimensional *mandalas* (See: *Borobudur*, **Plate 28**) which appear throughout the Buddhist world. It was (is) considered to be a most potent form/plan to be utilized towards the ultimate attainment of Enlightenment.

The outer square, oriented to the cardinal points of the compass is pierced on the median by a gate (four in all) (**A**).[59] These gates are guarded by *makaras*. Within these gates are to be found eight deities (**B**) guarding the cardinal and intercardinal points. The next barrier consists of a thousand *Buddhas* (**C**). Then another sacred wall with four gates (**D**), similar to the outer barrier. These four gates are guarded by four deities (**E**) which are oriented, again, to the cardinal points of the compass. One then enters the inner square (**F**) which is divided into four parts, or triangles, oriented to the intercardinal points.

The cosmic center is approached via a circle which contains four *vajras* (**G**) one each at the cardinal points. The inner area (**H**), formed by a circle, is divided into nine parts, much in the same way that the *Brahmásthana* of the *Paramashayika Mandala* (See: **Plate 4**) is divided. The four areas extending in the cardinal directions from the central zone contain five deities each (**I**). The cosmic center (**K**) encompasses the main deity (*Vairochana Buddha*) surrounded by four deities and guarded at the corners of the area by four *vishva-vajras*, (**J**) oriented to the intercardinal points.

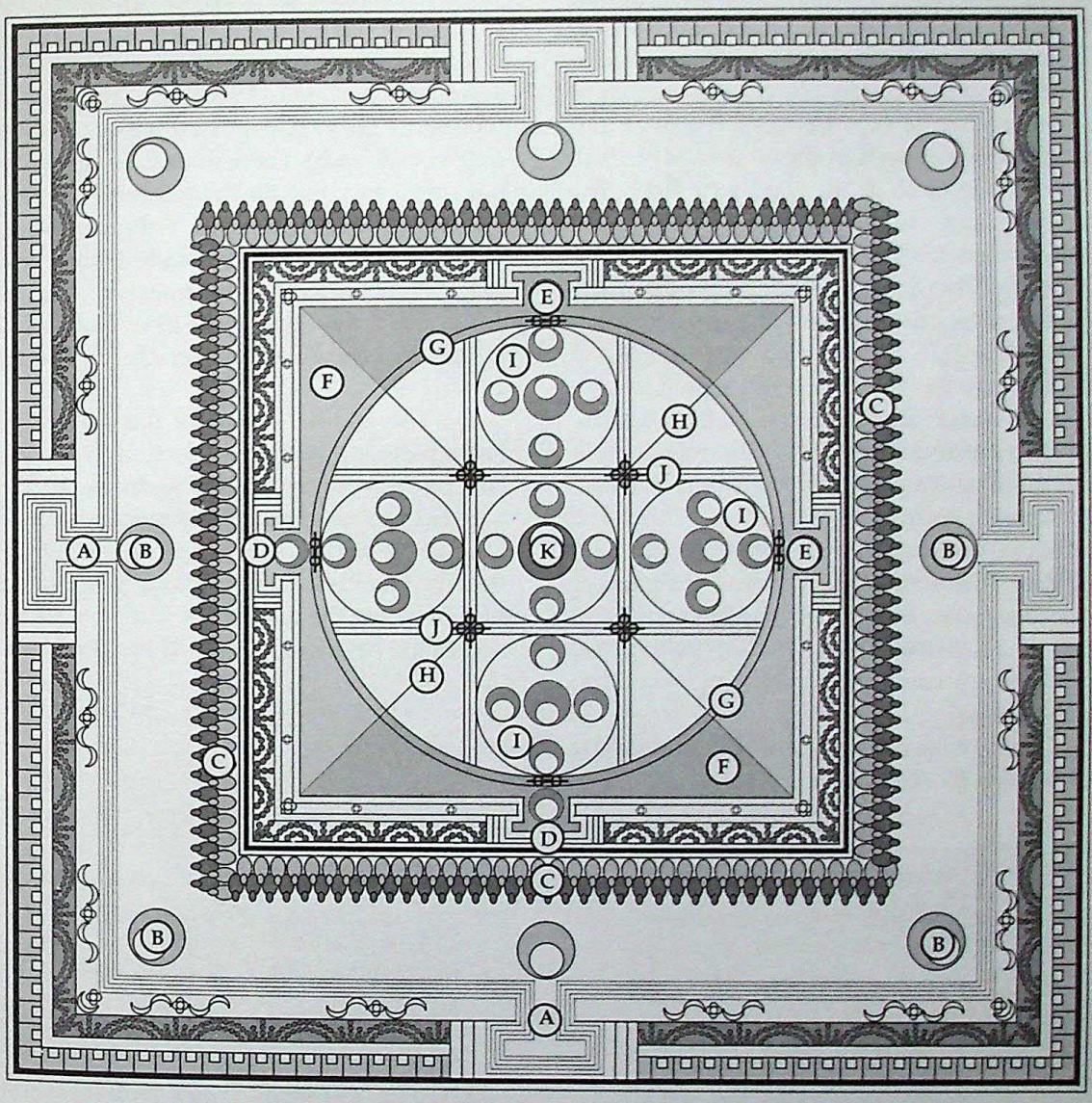
The central deity is also said to be surrounded by four *Buddhas*, thirty-two *bodhisattvas* and twenty-four "boundary guards."[60] This does not correspond with the **Plate 7**, nonetheless, from the drawing of the *mandala*,[61] one becomes aware of the recurrence of the number five. Five may symbolize the "*Buddha*, the *vajra*, the jewel (Indic.: *ratna*; Tib.: *nor-bu*), the lotus (Indic.: *padma*; Tib.: *pad-ma*), and *karma*."[62] Yet, with the implications of *Mahayana* and *Vajrayana Buddhism*, one cannot discount the importance of the *Pancha-Buddhas* (Tib.: *rGyal-ba Rigs lNga*)--i.e., *Amoghasiddhi*, *Ratnasambhava*, *Akshobhya*, *Vairochana* and *Amitabha*--also known as the *Dhyani* or *Celestial Buddhas*. There is less a connection with the five *Manushi Buddhas* of the *Theravada* tradition--i.e., *Kakusandha*, *Konagamanda*, *Kassapa*, *Gotama* and *Mettaya* (*Krakucchanda*, *Kanakamuni*, *Kashyapa*, *Shakyamuni* and *Maitreya*). Five is a magical number, is against evil, and reduces all to the meaningful. The number, one-thousand--i.e., the one thousand *Buddhas* encircling the inner square--relates to 'countlessness' and would imply that all the innumerable deities are called forth to protect the devotee and the inner Buddhas. Not only is one-thousand exemplified in The Thousand *Buddhas* (Tib.: *Sangs-rgyas sTong*), it also represents: the Thousand-Armed Thousand-Eyed *Avalokiteshvara* (Tib.: *sPyan-ras-gzigs Phyag-sTong Spyan-sTong*); the thousand names of *Vishnu* (Indic.: *Vishnusahasranama*). It is represented by the *Sahasra Dala Kamala* which lies beyond the *Ajna Chakra*. Additionally, the number eight--i.e., the four deities protecting the cardinal points and the four guarding the intercardinal points--symbolizes perfection, good fortune and is associated with cosmic concerns.

There are myriad examples relating to the *Vajradhatu Mandala*--e.g., the *Gyantse Kumbum* (See: **Plate 9**), *Borobudur* (See: **Plate 28**), *Schwe-Zigon Pagoda* (See: **Plate 55**), *Chedi Wat Chang Lom* (See: **Plate 68**) among others. Each unique within their culture, each reflective of the importance of the cosmic relationship that the two major faiths espouse.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 7 -- *Vajradhatu Mandala*



or = Deity

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Stupa Symbolism and Numerology

(AG, JM, AS)

The *stupa*-form is an architectural archtype. It is to Buddhism what the cathedral-form is to Christianity or the mosque-form is to Islam. From its humble origins as a tumulus it has developed over the centuries into a structure with specific parts and forms. Whether influenced by *Theravada Buddhism* or *Mahayana Buddhism*, it has assumed regional and sectarian variations as seen in the *zeidi* of Myanmar, or the *chedi* of Thailand, or the *chorten* of Tibet. The *stupa*-form is one of the most recognizable ecclesiastical forms in the world.

The *stupa* (Pali: *dagoba*) as it developed consists of three major divisions or areas:[63] the tripartite base or *socle* (**G, H & J**),[64] the *anda* or *dhatu-garbha*, a hemispherical, cupola-like section (**D**) seated upon a two-stepped, drum-like base (**E & F**), and the crowning elements consisting of the *harmika* (**C**), stem (*devata kotuva*) (**B**) and a cone shaped element (*hti, kota, kunta*) (**A**) which is referred to as the "tree of life." The Sri Lankan *dagoba* indicates a similar division, but with variations (See: **Plates 14 & 15**): a *socle* of two parts or levels; an *anda* or *gaeba* which is hemispherical in form and resting on a tripartite base or *trimala* (Pali: *tunmal pesava*); and the crowning parts which are similar to the archtype shown.

The *Tanjur socle* consists of three square base elements or steps (**G, H & J**) (See: **Figure 11**). These

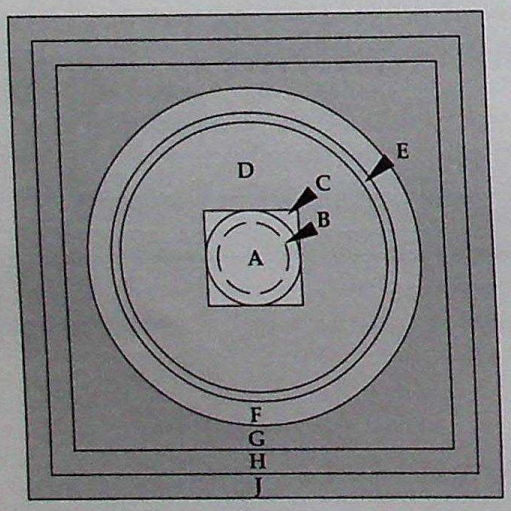


Figure 11 *stupa* plan based on **Plate VIII**

levels or elements are each given the cosmic-numerical value of four; totalling twelve (See: **Figures 11 & 12**) and are the basic iconic elements in the sixty-fold steps towards Enlightenment. The first level (**J**) denotes the mental and analytic aspect--i.e., the four foundations of mindfulness (Pali: *chattari satipatthani*). The second basal level (**H**) represents the four moral aspects or efforts in the upward climb (Pali: *chattari sammappadhanani*). The third, the top level (**G**) represents the four psychic abilities or powers (Pali: *chattaro iddhipada*). These three base elements together not only represent the foundational or preparatory phases in the attainment of Enlightenment, they are the base upon which the *dagoba* (*stupa*) rests. In the *Tanjur* archtype they are represented as square, as they are in the *Ruvanveli Dagoba* (See: **Plate 15**), however in the *Thuparama Dagoba* they are circular (See: **Plate 14**).

The middle section of the *dagoba* (*stupa*) also has a base or transitional element. It is composed of two circular or drum-like sections (**E & F**) which together are assigned the numerical value of ten--five for each section. The lower of the two (**F**) represents the five faculties (Pali: *panchindriyani*). Level (**E**), the fifth, denotes the five forces (Pali: *pancha balani*) and acts as the base for the *anda*. These two elements (**E &**

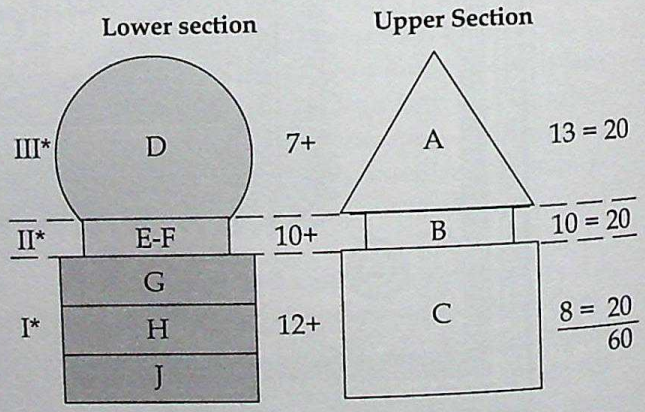


Figure 12: *stupa* two-part division & numerical values

F) represent essentially the same properties--i.e., the first, *panchindriyani*, is the passive aspect while the second, *pancha balani*, is the active face.

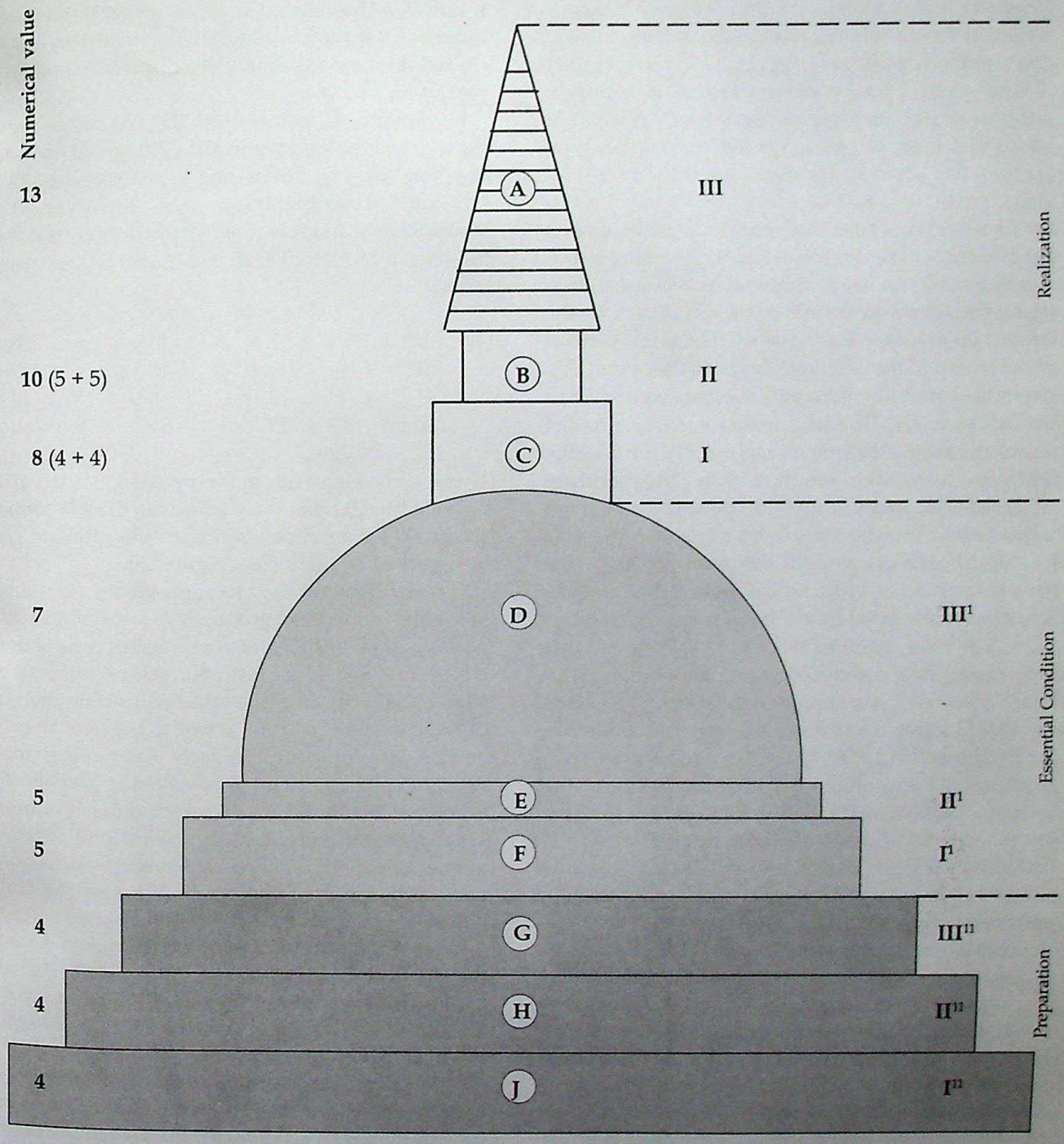
The major area or form of the *stupa* (*dagoba*) is he hemispherical *anda* (Pali: *gaeba*; Indic: *garbha*) which is frequently characterized as a cupola. The shape varies, but it is basically hemispherical and connotes a sphere--i.e., the lower half is implied. The *anda* is given the number seven and represents the seven factors of Enlightenment (Pali: *satta bojjhanga*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 8 -- *Stupa,* Tanjur archtype

(AG)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Stupa Symbolism and Numerology (Continued)

The crowning elements of the *stupa* consist of the *harmika* (**C**), the stem (*devata kotuva*) (**B**) and the pinnacle (*kota*) (**A**). The *harmika* (*hataraes kotuva*) is assigned the numerical value of eight which connotes the Buddhist's eightfold path (Pali: *attha maggangani*). The *harmika* (**C**) has been characterized as an altar or a throne as well as a relic chamber (*dhatu-garbha*). As an altar it is associated with fire of Vedic origins, Further, fire (*agni*) is associated with the faculty of sight, particularly of inner vision. Doubtless this parallels the practice of the Nepali who paint eyes on the four faces of the *harmika*--e.g., the *Swayambhunath* and *Bodhanatha stupas*, Kathmandu. The *devata kotuva* (stem) (**B**) which supports the tree of life denotes the tenfold knowledge (Pali: *nanam*). The final element of the crown in the *Tanjur* archtype is the spire (Pali: *kota*). It is conical in form and is often referred to as the *chattravali* (**A**). The *kota*, within the *Tanjur* model represents the thirteen mystical powers of the Buddha (*tathagata balani*). However, within Pali literature (*Anguttara Nikaya*) these mystical powers number ten (*dasha-tathagata balani*). The *chattravali* (*kota*) represents Mt. Meru's ultimate symbol, the axial tree of divine life and knowledge. Within the Buddhist tradition this is further represented by the *bodhi* tree.

The three main divisions noted above--i.e., the *socle*, hemisphere and the crowning parts--along with their various elements represent the preparatory steps towards Enlightenment (**G-J**), the essential conditions for Enlightenment (**D-F**) and the realization (**A-C**). Additionally, the whole may be divided into two sections--i.e., **A-C**, and **D-J** (See: **Figures 11 & 12**). This lower section, **D-J**, is divided into three areas--i.e., **D** (the *anda*), **E & F** (the *anda's* base) and **G-J** (the tripartite square base). When the parallel elements with their assigned numerical value are added together; the number twenty is the sum. The three added together again produces sixty, a number of cosmic significance.

In the upper section, the *harmika* (**C**) consists of 4 + 4, while the lower section's *socle* **G-J** is made up of 4 + 4 + 4, together equalling twenty. The integer four is associated with the square and denotes completeness, perfection and is the perfect number of a higher plane whose √ is 2. These areas $(I^*)^{65}$ are square, *en plan* and possess a fundamental function of a base for the parts above (See: **Figure 11**).

Again, in the upper half (**A-C**), the stem (**B**) is composed of 5 + 5, while in the lower half the *anda's* base (**E & F**) consists of 5 + 5, together equalling twenty. Five symbolizes the magical, is against evil, represents the natural man, is revolutionary and reduces all to the meaningful. The areas labelled **II*** (**B, E & F**) are circular in plan, drum-like, and are a mediating function.

Finally, the upper level **III*** (**A**) consisting of thirteen and the lower level **III*** (**D**) is given the value of seven, together amounting to twenty. They (**A & D**), too, are circular *en plan*, however **D** is hemispherical and **A** is conical in form. Sixty becomes the critical factor (20 + 20 + 20 = 60) in the cosmic plan.

III*	D	7 +	A	13	=	20
II*	E-F	10 +	B	10	=	20
I*	G-I	12 +	C	8	=	20
Total		29	+	31	=	60

These sixty elements make up a sequential path climbed through the three worlds (*triloka*), a form of spiritual circumambulation with the ultimate goal being Enlightenment (See: **Figure 55**).

The numeral sixty has appeared several times in the above consideration. Sixty (normally: 20 + 20 + 20 = 60, 20 x 3 = 60) refers to a complete cycle of time. It is exemplified in: the believed cycle of Jupiter (sixty years), the sixty elements which constitute the way through the three worlds, as well as the sixty levels of human development. Similarly, the number three appears to be important, a possible key and also the number nine (3 x 3 = 9, or 3 which is the √ of nine). Three signifies perfection, the divine family (father, mother, child), and unity plus diversity which equals perfection (1 + 2 = 3). It is exemplified in: The Three Refuges of the *Theravada* tradition being the Lord *Buddha* , the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); *Tripitaka* (Pali: *Tipitaka*); The Three Regions (Indic: *Arupadhatu, Rupadhatu & Kamadhatu*); and the Three *Bodhisattvas* of Wisdom, Power and Mercy.

Not only is three an important numerical element in the iconographic makeup of the *stupa*, but also the integer five. Within the *triloka* there are fifteen planes--six in the *Kamaloka*, five in the *Rupaloka* and four in the *Arupaloka*. These world planes are related to the sixty steps by:

I) 15 = 5 x 3 x 4 = 60

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Stupa Symbolism and Numerology (Concluded)

Further the three worlds contain thirty classes of beings--ten in the *Kamaloka*, sixteen in the *Rupaloka*, and four in the *Arupaloka*. These beings are also associated with the sixty steps towards Enlightenment by:

II) $30 = 5 \times (3 + 3) \times 2 = 60$

Finally, the sixty steps enumerated above can be arrived at by:

III) $60 = 5 \times (3 + 3 + 3 + 3) = 60$[66]

The *stupa* is divided into three major sections, each of these sections are again divided into three areas (**I, II & III**; I^{1}, II^{1} & III^{1}; and I^{11}, II^{11} & III^{11}) as noted in **Plate 8**.

The above model is, of course, theoretical. Each culture which practiced Buddhism, possessed their own unique variations. Its application can be seen in the numerous structures--e.g., *Borobudur*, which is seen as a *mandala* (See: **Plates 28-31**) and which also is seen to have application to the *pradakshinapatha* of *Borobudur*[67] (See: **Figure 55**), or the Thai *chedis*, or the *dagobas* of Pagan. Yet, each can be seen as adhering to a greater or lesser extent to this theoretical model.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Gyantse Kumbum

Gyantse, Tibet, 1440 CE

The *Kumbum* ("hundred thousand images"),[68] also known as the *Pango Chorten*, is visually one of the most compelling architectural forms to be found in Tibet. It indicates certain influences from India and also exemplifies the Buddhist cosmology in temporal form. A *chorten* (Tib.: *mChod-rten*, Indic: *chaitya*), a structure which represents of one of the Eight Great *Mahachaityas* (Tib.: *mChod-rten-Che brGyad*) that memorialize one of the eight most important happenings in the life of the Lord Buddha. In particular the *bDud-bTul mChod-rten*[69] which commemorates his victory over the evil force and therefore related to the *bhumisparsha mudra*,[70] (See: Figure **13**). The *bhumisparsha mudra* is also an important iconic representation amongst the *Theravada* tradition.

The *Mahachaitya* consists of a square base of four steps set upon a plinth which represents the temporal nature, the earth. The normally dome-form *anda* is not hemispherical, but here a convex form and one that represents water. The *harmika* is vestigial. The equivalent of the *chattravali* is a tapering cone consisting of thirteen steps denoting fire and refer to the thirteen steps to Enlightenment. All are topped by a parasol (Indic: *chattra*; Tib.: *gDugs*) and a finial composed of the Sun-Moon (Tib.: *Nyi-Zla*) symbol.

The *Kumbum* is *stupa*-like in that it consists of an outer wall and terrace upon which the mass of the temple rests. There are four levels which rise one upon the other and support the *anda* which in this instance is drum-like in form. The *harmika*, here is in the form of a *triratha* and rests upon the drum-like *anda*. It displays the eyes of Buddha at its four cardinal points, a typical feature of many *Vajrayana stupas*.[71] Above all soars the *chattravali* and an elaborate *chattra*.

The *Kumbum* represents not only a *stupa* but is also a three dimensional *mandala*. It differs from other *stupa* in that it is not solid, but contains one-hundred and twelve chapels on the various levels of its interior.[72] Its plan indicates a clear connection with the *pancharatha* of India. However, the manner in which this form is derived is essentially different from the Indian prototype. In Buddhist cosmology the circle takes precedent over the square as the manifestation of the divine. It is from the circle that the square is formed.[73] It is to be noted that each of the levels of the *Kumbum* fall within circle that are equidistant, one from the other.

In the example of the *Kumbum* the four level base--the temporal world--is formed from (within) the circle, and culminates in the circle of the *anda* and the *chattravali* finial--the celestial world. In the first level there are four main chapels situated at the cardinal points of the compass, they are each separated one from the other by four smaller chapels--totalling twenty in all and corresponding to the doorways. This would seem to be of significance--i.e., in the *Vajradhatu Mandala* each of the major *Buddhas* (*Dhyani*) are surrounded or accompanied by four *Bodhisattvas*. In the uppermost shrine is the image of the *Adi-Buddha Vajradhara*, below, are four chapels. The *Kumbum* could well be an architectural realization of the *Bardo Mandala* (aka *Thub-pa-drug Mandala*) or the *Vajradhatu Mandala* (See: **Plate 7**)

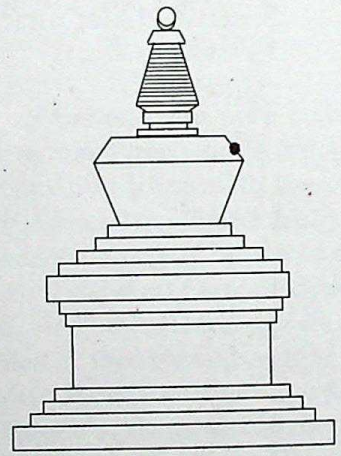


Figure 13: *bDud-bTul mChod-rten*

The number four denotes perfection, represents the cardinal points, The Four Bodies (Tib.: *sKu-bZhi*), The Four Basic Elements (Tib.: *hByung-ba bZhi*), etc. Five denotes the Five Buddhas (Indic: *Pancha-Buddha*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Mystics (Indic: *Pancha-Tathagata*, Tib.: *De-bZhin-gShegs-pa*); The bisection of the circle at the cardinal and intercardinal points establishes an eightfold division of the circle. Eight, likewise, is a specifically important Buddhist iconic number--i.e., *Ashta-Mahachaitya*, *Ashtamangala*, the Eightfold Path.

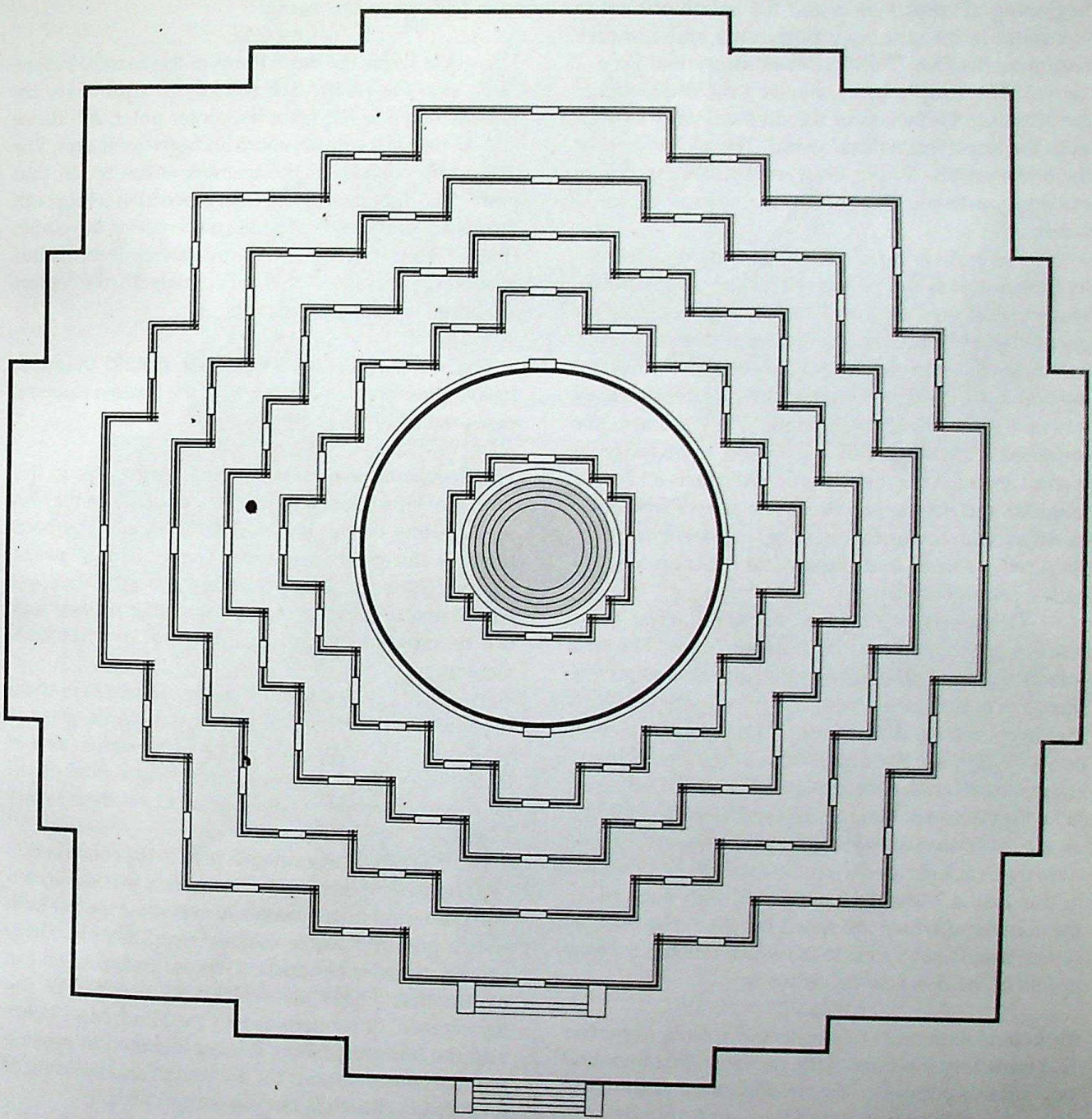
The *Gyantse Kumbum*, as a three dimensional *mandala*, is the corporeal representation of a spiritual-cosmic force for *Vajrayana Buddhism*. Thankfully, it did not suffer the ravages and barbarism of the ubiquitous "Cultural Revolution."

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 9 -- *Gyantse Kumbum*

(SBa)



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Garbha-griha Plan

(after *Brahameshvara Temple*, Bhuvaneshvar)

The establishment of a design for a temple, the beginning of construction and the length of time to complete is fraught with numerous and complex requirements (See: "Ratios, Relationships and Rules," above). The temple is, of course, a manifestation of the Absolute Perfection of the divine *Brahma* as well as of the imperfect natural world. The *garbha-griha* of the *Brahmeshvara Temple*, Bhuvaneshvar is used as an example, although there are numerous regional variations.

The form and plan of the *garbha-griha* denotes its function. It is not conceived of as being a public space. It is closed, dark and sacred, reserved only for particular individuals, the *Brahmin* priests. These priests are the intermediaries between The Divine and the populous, the devotees, through the rites practised within this holy, confined space. They are also the ordained transmitters of the sacred knowledge of *Brahma* through the recitation of Vedic texts and other religious and mystic practices. The priests who enter these sacred confines must be properly trained, prepared, adorned and cleansed as befits an office of such a propitious nature.

Observing the plan of the *garbha-griha* numerous requirements become apparent. The first consideration is to establish the dimensions of the sacred precinct, in the case the *Brahmeshvara Temple* that proportional dimension is fourteen by twenty-one (14 x 21) (See: **Plate 25**) with two-hundred-ninety-eight squares (*padas*)--the width of which is noted by "**a**" at the bottom of **Plate 10**. The *garbha-griha* occupied an area of sixteen of the sacred precinct's *padas*. These were then each divided in half to establish the *mandala*, in this case a *Manduka Mandala* of sixty-four *padas*, the corners of which are noted by (**A**).[74] The *mandala* is then inscribed by a circle (**B**) which touches the four points of the *mandala*--its radius is:

$$r = 2a\sqrt{2}.$$

This circle represents the terrestrial sphere, imperfect and transitory. No form of the *garbha-griha* is to extend beyond this point--i.e., the circumference of the circle (**B**). The *raha-rathas* extend to, and touches the circumference of this circle (**B**). A second circle (**C**) is inscribed--its radius being:

$$r = 2.5a.$$

This circle forms the outer limits of the *anardha-rathas*. The *anardha-rathas* are found, in this case, by establishing line (**D**) from the center point, 30^0 above and 30^0 below the north-south and east-west axes. The extending corners of the *anardha-rathas* touch that point (**E**). Diagonals (**F**) are then placed, bisecting both the center of the *mandala* and the center of the circles (**B** & **C**). Four circles (**G**) whose diameter is the radius of circle (**B**) are placed on the diagonals (**F**) (the centers are noted as: **Gc**)--its radius is:

$$r = a\sqrt{2}.$$

A final circle (**H**) is then inscribed around the inner space, centered on the crossing of the north-south and east-west axes--its radius is:

$$r = b.$$

The *Brahmásthana* is thus denoted, formed by, in this case, the central four *pada*, and the domains of the four surrounding deities are then established. The basic form is the cosmic square. The points of *padas*' intersections are known as *marmas* (**J**). They are considered to be so sacred that the inner *marmas* may not be crossed by any architectural or structural element.

Through a complex series of mathematical division the inner space (**K**) of the *garbha-griha* is established.[75] In part, the width of the extensions of the *garbha-griha* which avoid the *marmas* is established by the intersections of the circles **G** on their center axis (**Gc**).

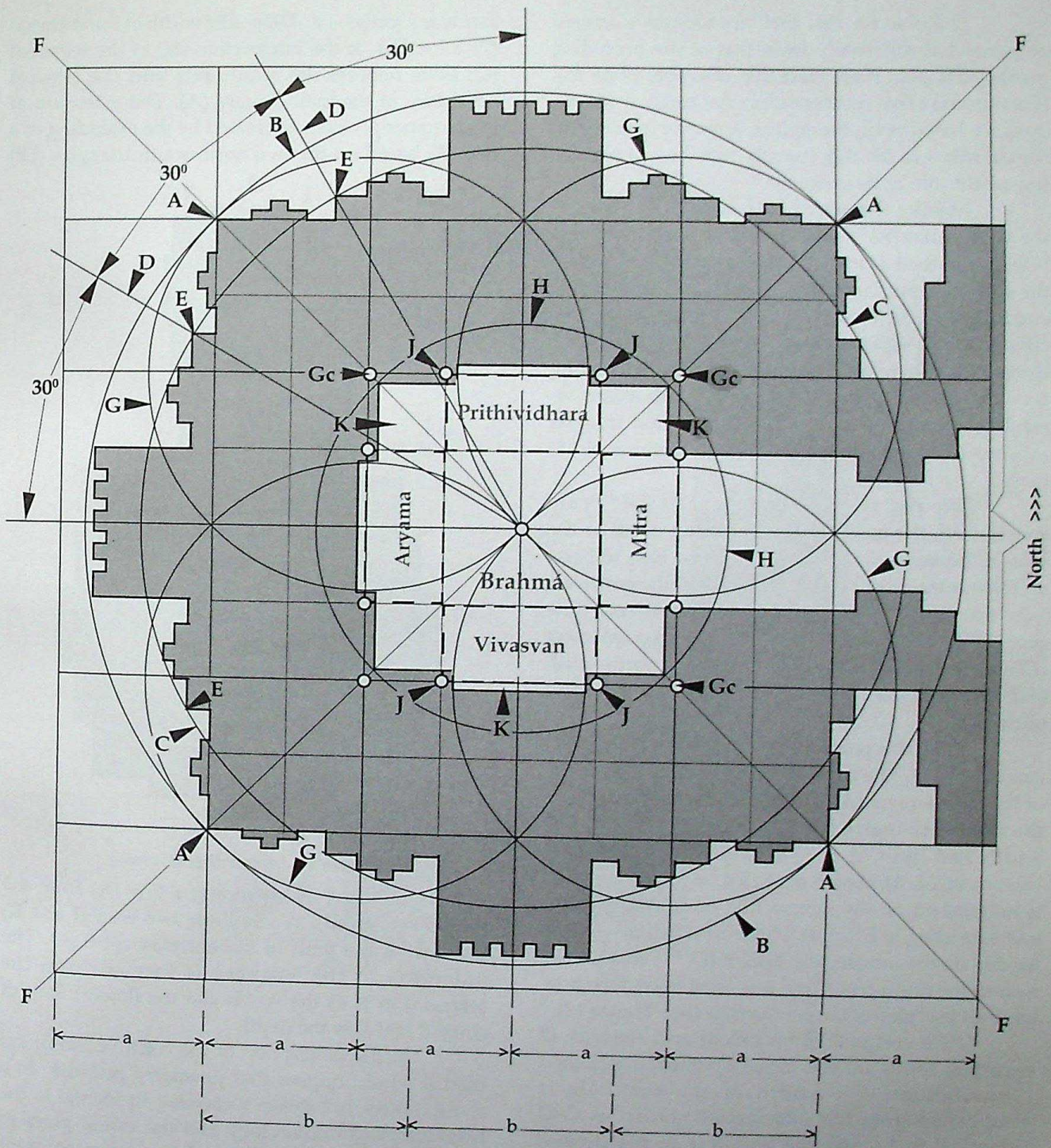
The arrival at a suitable plan in the construction of a Hindu temple is steeped, as is seen, in complicated and numerical calculations which possess for this faith potent and implacable esoteric requirements. These conditions must be satisfied before construction can commence. These considerations emphasize the importance of numerology in the Hindu and hence also the Buddhist faiths. It must be noted in passing that the considerations for the design and building of a Christian church is far less complicated.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 10 -- *Garbha-griha* Plan

(HS)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ancillary Shrine Plan

(after *Brahameshvara Temple*, Bhuvaneshvar)

(HS)

The plan for this ancillary temple is arrived at somewhat differently from that of the preceding *garbha-griha* plan (See: **Plate 10**; also See: **Plate 25**). Illustrated is a five-*ratha* (*pancharatha*) ancillary shrine. Both are based upon the square, however in this plan the divisions of the day (twenty-four hours) play an important role in its make-up.[76]

Initially, the outer limits or the dimensions of the main square (**A**)[77] is established. Around his square is then inscribed a circle (**B**), the center of which is on the east-west north-south axis of the square and the circumference of which precisely encloses the four corners of the square. Again this circle refers to the terrestrial sphere as did circle **B** in the preceding consideration. The east-west, north-south axis is re-established and each quadrant is divided into six sections ($C^{1\text{-}6}$) equalling twenty-four sections of 15° each.[78]

Two pair of equilateral triangles ($D^{1\ \&\ 11}$) are constructed, the base dimensions being equal to the side of the main square (**A**), are placed base to base, and that intersecting line is centered on the east-west axis (one pair [D^{1}]) and on the north-south axis (one pair [D^{11}]). The points where the triangles intersect (**E**) with the sectional (**C**) lines nearest the north-south and east-west axes become the radius for a second circle (**F**).

From this point the shrine (indicated in grey) can be formed. The main block is the form and shape of the main square (**A**). The cella is established where the double-triangles ($D^{1\ \&\ 11}$) intersect (**DDc**). The width and limit of the *anardha-ratha* or the first extension (**2 & 4**), shown encircled on the shrine plan, is established on the intersecting lines **DDc** (width) and extending to **F** (limit). The second extension (**3**) is located on the intersecting lines **E** ($D^{1\ \&\ 11}$ and **C** lines nearest the north-south and east-west axes). One now has the basic plan of the *pancharatha* (See: **Figure 13**).[79]

The vestibule (**6** encircled) and entrance (**7** encircled) forms are also based upon the established computations. The width of the vestibule is established from the intersection shown as **G-G** (identical to **E**), and the length is to the (lower) boundary of the main square (**A**). The outer wall dimension is established from the width of the sanctuary (cella)--i.e., **DDc**. The width of the entrance (**7**) is located at the intersection (**H**) of the sectional (**C**) lines nearest the south axis and the (lower) boundary of the main square (**A**). The extension of the entrance (**7**) form is created by the extending of a line (**K**) based on the two north-south triangles (D^{1})

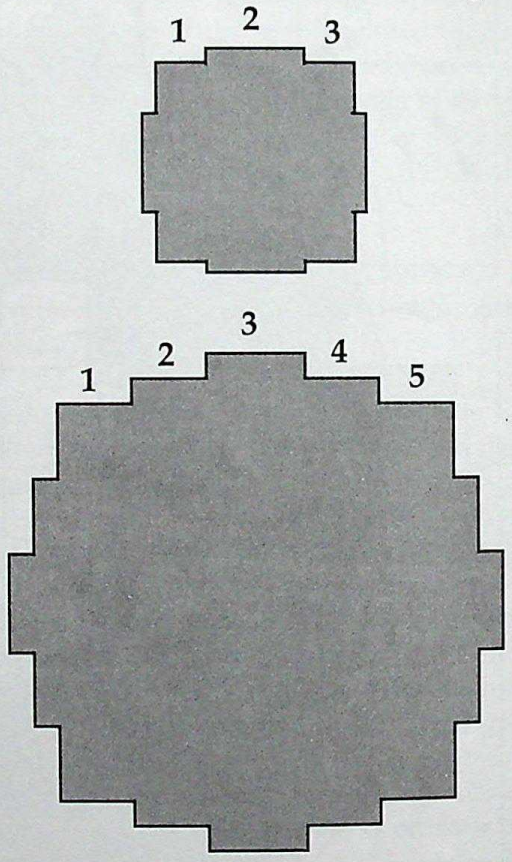


Figure 14: *triratha* & *pancharatha*

and a line based on extending a line (**K**) from the second section (**B**). Where these two lines (**J** and **K**) intersect is the limit of the entrance form (**L**). The indention of the entrance is formed from the intersection **N** as the width and the (lower) limit of circle **B** and **L** as the depth.

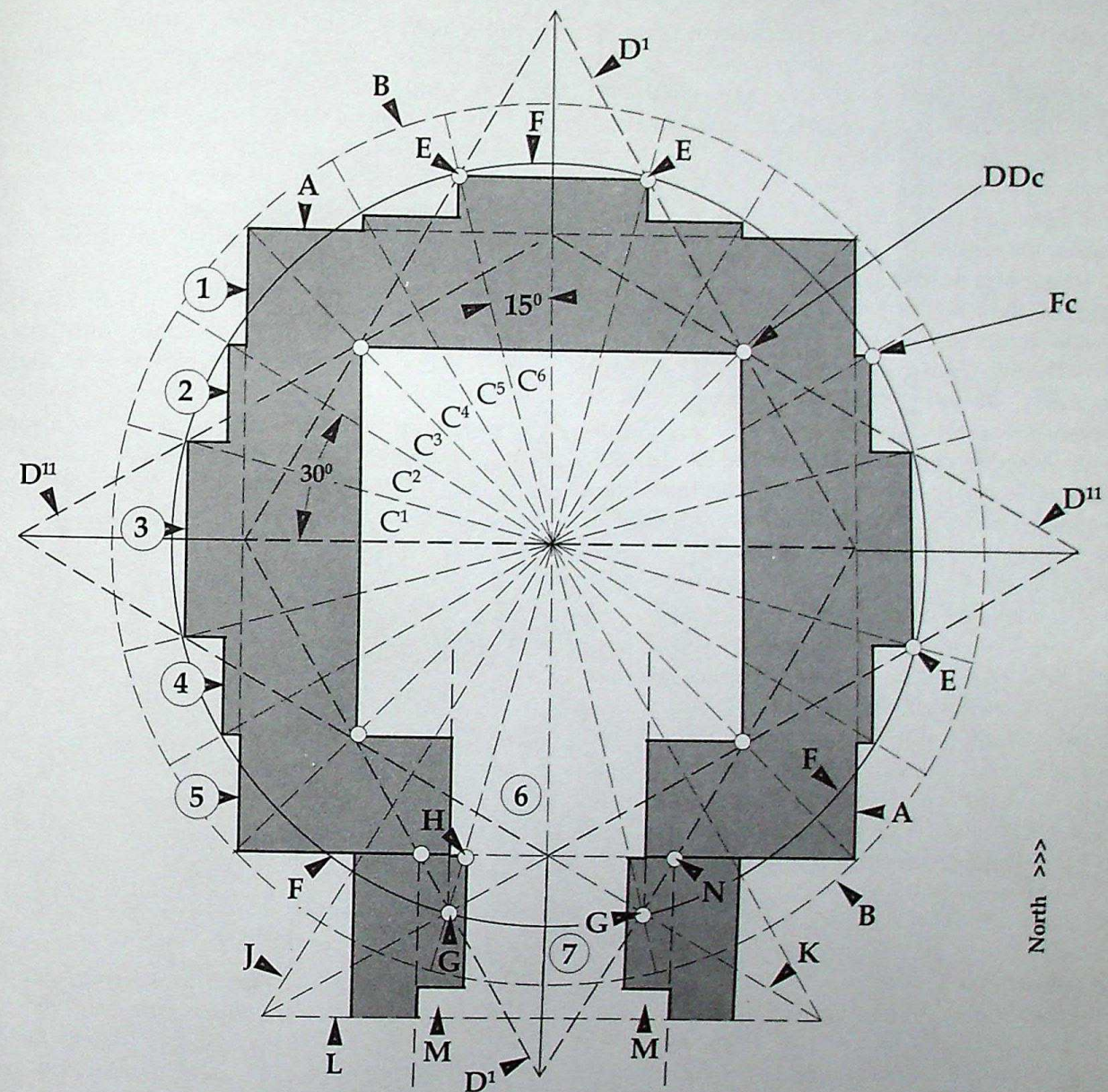
In the description of the construction of the plan it would appear that geometry presides. In a sense it does, but this is somewhat incidental to the implication of numerology and the role it plays in Hindu temples.[80] Yet The *mandala* remains constant and immutable.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 11 -- Ancillary Shrine Plan

(HS)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Temple Plan

Brihadeshvara Temple Sanctuary, Tanjore and *Brahameshvara Temple*, Bhuvaneshvar

The interior forms of the Indian temples are, *en plan*, as varied as the exterior architectural and sculptural details. The measurements, the proportions all relate to specific cosmic-design requirements, a few of which have been touched upon above. In general, the spaces relate quite closely one to the other, from area to area. There are, of course, regional variances, and differences depending upon the size and complexity of the temples. The major term variations occur between the north and the south of India, between the *nagara* and the *vesara* or *dravida* styles.[81] Yet, taking into account these differences, the use of the areas, their theologic/cosmological significance remains similar and constant.

The two plans to the right, *Brihadeshvara* Temple Sanctuary, Tanjore and *Brahmeshvara Temple*, Bhuvaneshvar, are used because they display the various elements of the temple plan and because they represent the two stylistic regions of India. In addition the plan for the sanctuary of *Brihadeshvara* Temple is based upon the *Padmagarbha Mandala* of 256 *pada* (whose √ is 16), while the *garbha-griha* is based upon a *Manduka Mandala*.

The sanctuary, the *sanctum sanctorum*, the *garbha-griha* (**A**)[82] is that part of the temple, the axis around which the whole cosmically revolves. In a number of temples[83] one finds a passageway, the *pradakshinapatha* (**B**) which surrounds the *garbha-griha*. This is utilized for the rite of circumambulation (*pradakshina*) which is prominent in both Buddhism and Hinduism. Connecting the *garbha-griha* to the subsequent areas of the temple is the *mukhamandapa* (**C**) (aka *mukhamantapa, mukhamandapa, sukanasi, ardhamandapa*). The width of this transitional passageway may vary, depending on the dimensions of the *garbha-griha*. It is, however, always narrower than the sanctuary space. The *mukhamandapa* is frequently used to store various implements required for the performed rites. Next is a passage, *antarala* (**D**), which connects the above to the main pavilion or hall (*mandapa* or *mukhashala*).

The second most important of the two major forms or blocks is a hall in which the devotees may gather. This hall (**E**) is variously called: *mandapa* (var.: *mantapa*), *nrittamandapa* (var.: *nrittamantapa*), *navaranga, jagamohan* and/or *mukhashala*. The width of the interior of the *mandapa* is usually equal to the width of the outer square of the *garbha-griha*. It is usually fully enclosed and any fenestrations at all are of a very minor nature. Finally, the entrance to the *mandapa* (**F**) is frequently rather plain, *en plan*, certainly not developed as an important feature. However, a number of temples possess a roofed colonnaded porch at the entrance to the *mandapa*, this is particularly evident in the north.

The precincts of the temple with its various ancillary shrines adhere to certain traditions and proportions (See.: **Plate 25**). The whole ensemble is centered in the *garbha-griha* and acts not only as a representation of the divine, but also a sacred, symbolic vehicle (Indic: *vimana, pushpaka*). It is to this

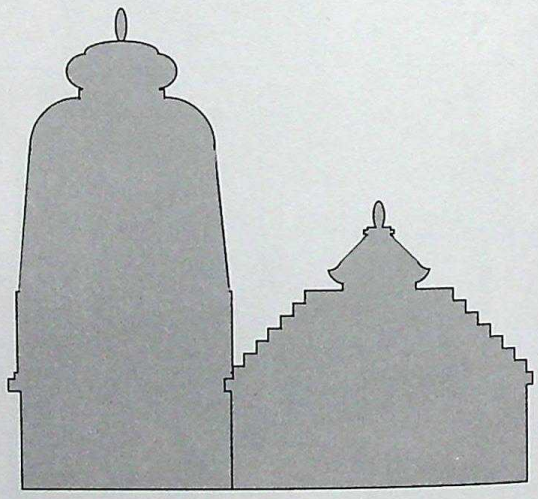


Figure 15: elevation, *Brihadeshvara Temple*

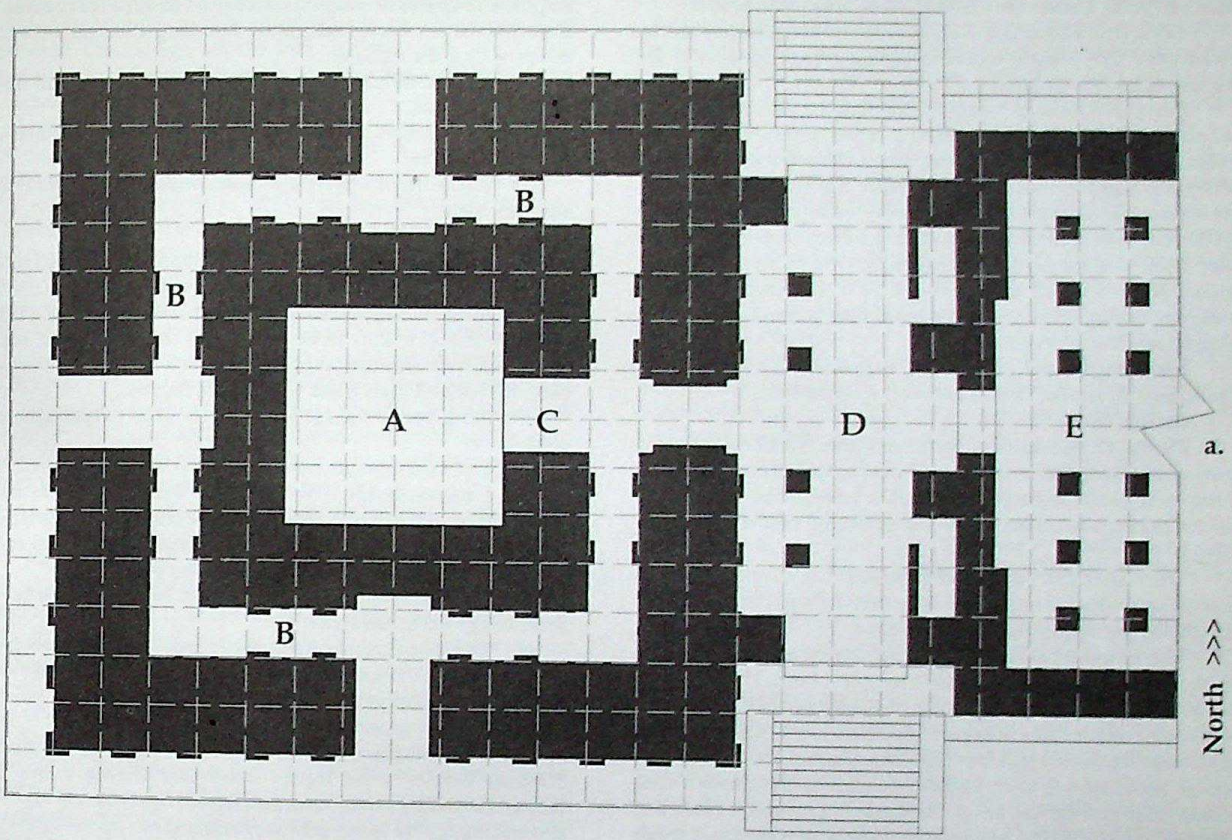
place that the devotee comes to worship, and in the simple process of attending, merit is achieved.

Finally, as has been stated, the *mandala* and, therefore, the temple is a three dimensional form (See: **Figure 15**). As such, various heights and proportions are prescribed for the various areas and sections.[84] These proportions do have regional variations (See: **Appendix A, Plates 90, 94 & 100**).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

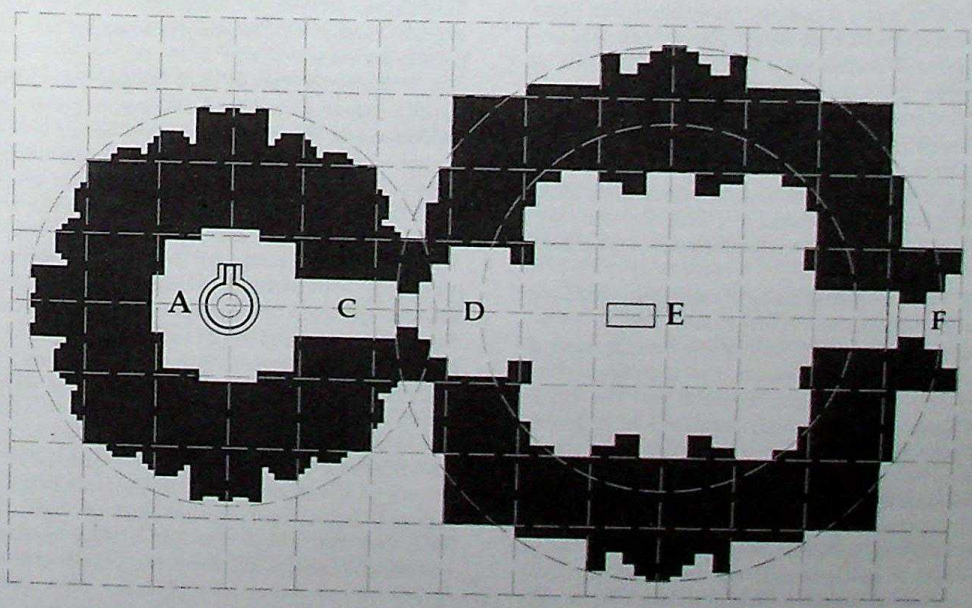
Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 12 -- Temple Plan (a. *Brihadeshwara Temple* Sanctuary, Tanjore; b. *Brahameshvara* Temple, Bhuvaneshvar



a.

after: *Brihadeshwara Temple* (*garbha-griha*), Tanjore



b.

after: *Brahameshwara Temple* (*garbha-griha* and *mandapa*), Bhuvaneshvar

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Architectural Iconography)

[1] Fyodor Dostoyevsky, "The Grand Inquisitor," The *Brothers Karamazov*, trans. Constance Garnett, New York: n.d., p. 264.

[2] FWB, *A Dictionary of Buddhist and Hindu Iconography, etc.* pp. xvii-xviii. This lengthy quote is included as it pertains to the major consideration at hand.

[3] The perception of "original sin" and the role that woman (Eve) plays in that concept assumed a rather bizarre logic to the Patrists. It was felt that man is born in sin, the common condition of all man is that they are born of woman, therefore the source of sin is woman (Eve). But it was necessary to be more specific--to them the sins of lust, fornication and/or adultery were particularly odious. Therefore, the source of sin was the woman's sexual power over man and physically the vaginal/labial area. Since every man had to pass through this area to be born, they were contaminated by contact and therefore sinful.

[4] For example: the *Wats Phra Chetuphon* and *Phra Kaew* of Bangkok as well as *Wat Phra Si Sanphet*, Ayutthaya.

[5] HS, pp. 47-49.

[6] PS, pp. 17. In addition, there are various and complicated cosmological, time, astronomical and mathematical computations that are to be made regarding a temple's orientation. These may cause the orientation not to follow the preferred east to west ; HS, pp. 43-57.

[7] The use of the circle had certain Vedic connotations. In ancient times the sacred fire would have been brought from a round, outer altar to the square, sacred inner altar.

[8] The Greeks preferred the rectangle, which was also preferred by the Egyptians in their temple plans. The Romans, likewise utilized the rectangle for a majority of their important temples--the exceptions were the temples of Vesta. The later Christianized European periods--the Romanesque, Gothic, etc., also preferred the rectangle with variations--such as the Greek Cross, the Latin cross and the Tau cross. The circle or octagon was used in the design of the plan for baptisteries, which, although not major structures, were important as they indicated the beginning of the Christian life--the circle, the womb.

[9] KV, p. 77.

[10] One needs only to make a cursory investigation of those "standard" art history books which espouse a history of world art--particularly as are utilized within the numerous institutions of higher learning within the United States. The overweening emphasis is upon European Art History with only a passing mention of the vast arena which is non-European/Western.

[11] Later with the Mughul domination of the Indian subcontinent, bringing with them their Islamic faith and building practices, the arcuated system flourished in a very real way. But, this system was an imposed system, not an indigenous, preferred system.

[12] For example: *Wat Kamphaeng Laeng*, Phetchaburi; *Wat Suan Kaew Utayan Noi*, Si Satchanalai; and *Prasat Phanom Wan*.

[13] MB, p. 24, asserts that by the time of the development of the subtractive architectural monuments, the symbolism had become standardized. It would seem, therefore, that the earlier architectural forms' (impermanent wood) development had been of substantial duration and general use to establish an iconic pattern. The same can be said of the Greeks who certainly had been exposed to the arcuated system, but for numerous reasons preferred the trabeated system.

[14] The Pagan kingdom refers to temples and shrines as *gu* (cave). In part, this was an apt term as one of the requirements of these temples and shrines is that they possess a dark interior. PS, pp. 15-19.

[15] Modern historians now postulate that the fall of the important cultures of Mohenjo-daro and Harappa was caused from deforestation which facilitated flooding thereby essentially undermining the culture.

[16] For the following section PKA, AB, PA, HS were utilized, for the most part.

[17] For example the *Silpa-sastra*, *Silpa Prakasa* and *Mayamata*. See: Bibliography.

[18] This is based upon those measurements obtained from the author's hand.

[19] PA, pp. 218-220.

[20] *Ibid.*, these concepts have been shown by Atmadi to apply to temples of Java before and during the period in which *Borobudur* was constructed. See: specifically pp. 181-226; 314-318; 320-322, 352, and 381-382. It is also to be noted that the Indianized states of Southeast Asia also utilized these proportions to greater or in the case of Thailand (See: **Plate 142**), lesser degrees.

[21] HS I, pp. 15-19. Henri Sterlin is used extensively in this section.

[22] The bold capitols refer to those in **Figure 2**.

[23] I acknowledge that *Theravada* Buddhism is, in truth, a philosophy rather than a religion in the normally accepted sense of the term, however, *Mahayana* and *Vajrayana* Buddhism are both religions in as much as they possess a theology.

[24] The exception is *Vajrayana* Buddhism of Tibet, in which there is a priestly hierarchy.

[25] The *Hari-Krishna* sect as an exception is a relatively modern phenomena which seems to have peaked in the 1970-1980's and it was visibly active in the United States.

[26] The ten aspects of *Maha-Kali*.

[27] Buddhism's philosophy, in part rests upon the "Four Sublime Verities" (four truths) which are: 1) pain exists, 2) it is brought about by attachment and desire, 3) *Nirvana* (Pali: *Nibhan*) can end pain, and 4) the way to *Nirvana* is by following the Eight-fold Path. "The Eight-fold Path" consists of: Right Doctrine, Right Purpose, Right Discourse, Right Behavior, Right Purity, Right Thought, Right Lowliness and Right Rapture. If for whatever reason "The Eight-fold Path" is not followed, then pain will result, the pain of rebirth until Enlightenment is achieved and the liberation from rebirth--*Nirvana*.

[28] The important sects of Tibetan (*Vajrayana*) Buddhism--i.e., the *bKa'-brgyud-pa* (red hats), *dGe-lugs-pa* (yellow hats), *bKa'-gdams-pa*, *Kar-ma-pa* (black hats), *rNying-ma-pa* and *Sa-skya-pa*--each possessed a high lama who was the spiritual leader. In addition there is a nominal hierarchy between those who enter the monk-hood and those who are reincarnate lamas. The latter are spiritually superior to the former and are treated with more deference.

[29] There are a number of important sources that deal with Numerology. In addition to the sources noted below information was gleaned from Brahman priests and Buddhist monks in India, Nepal, Thailand and Malaysia; in particular: Pt. Jai Dev Shastri, Hoshiarpur, Punjab (6-8-99); and Pt. Vashisthu Dutt Mohila, New Delhi (22-11-94 & 8-8-99). Published sources were consulted were: Mabel L. Ahmad, *The Secret Power of Names and Numbers: A Guide to your Destiny*, Bombay: 1991; Eric T. Bell, *Numerology*. Baltimore: 1933; C.D. Bijalwan, *Hindu Omens*. New Delhi: 1977; Tons Brunes, *The Secrets of Ancient Geomerty and Its Use* (vols. I-II), Copenhagen: 1967; George Coedes, *The Indianized States of Southeast Asia*. Honolulu: 1968; Thomas Crump, *The Anthropology of Numbers*. Cambridge: 1990; Bruno Dagens (ed. & trans.), *Mayamatam, Treatise of Housing, Architecture & Iconography* (2 Vols.), New Delhi: 1994; (Lama) Anagarika Govinda, *Psycho-cosmic Symbolism of the Buddhist Stupa.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes (Architectural Iconography) (Continued)

Emeryville: 1976; O. Hashnu Hara, *Number, Name and Colour: As Applied to Character and Fate*, New Delhi: 1995; Seferial Hindi, *Kabala Anka Rahasya*, Jalandhar: 1992; Lionel March, *et al*, *The Geometry of Environment*. Cambridge: 1974; S.R.N. Murthu, *Vedic View of the Earth: A Geological Insight into the Vedas*, New Delhi: 199?; Blanche C. Olschak and Gesche Thupten Wangyal, *Mystic Art of Ancient Tibet*, Boston and London: 1988; Phra Rajawaramuni (Prayuth Payuthto), *Dictionary of Buddhism* (*Brief Dictionary of Buddhist Dharma*). Bangkok: P.S. 2528 (1985); Annemarie Schimmel, *The Mystery of Numbers*, New York: 1993; Norman Shine, *Numerology: Your Character and Future Revealed in Numbers*, New York: 1994; A. Snodgrass, *The Symbolism of the Stupa*, Ithaca: 1985; W. Wynn Westcott, *Numbers, Their Occult Powers and Mystic Virtues*, Bombay: 1994; and G. Wilson, *et al. Geometry for Architects*. Champaigne: 1962.

[30] The use of the symbol '\' indicates that the number is also made up of two integers in this case 12 is made up of 1 (one) and 2 (two). Each integer has its own mystic value which in a combined form may shift somewhat. Within Hindu and Buddhist Numerology the individual integers of a compound number are considered individually as well as their sum. Frequently they are opposite to their single number counterpart.

[31] Kenneth E. Wells, *Thai Buddhism: Its Rites and Activities*, pp. 98-99.

[32] *Ibid.*, 99-102.

[33] The terms "subtractive" and/or "monolithic" refer to the removal of material(s) in order to enclose space--such as those architectural forms at Karli, Ajanta, Badami as well as those carved structures at Mahaballipurnam, Kalugumalai and Ellora. It is used in contrast to "additive" architecture in which space is enclosed by a series of elements--such as stone, brick, etc.

[34] Fyodor Dostoyevsky, *Brothers Karamazov*, pp. 264-67, in the voice of the Grand Inquisitor, from the chapter of the same name, states that religion was established and based upon "miracle, mystery and authority." Certainly, the cosmological practices of both Buddhism and Hinduism were accessible to the educated elite--such as the Hindu Brahmin--but were not to the lower castes or groups, thereby establishing a "mystery."

[35] The latter, *yab-yum*, is a concept associated with *Vajrayana Buddhism*, in particular. For example, the representation of the *Adi-Buddha* (*Samatabhadra*) is represented by the seated (*vajrasana*) deity *Samatabhadra*, blue in color, nude in ritual intercourse (*yab-yum*) with his consort.

[36] A concept laid out and parameters given by G. Rattray Taylor, *Sex in History*, New York: 1954.

[37] BO, p. 18.

[38] CD, pp. 24-25 and 46-48, the seven *lokas* being: *Bhurloka, Bhuvarloka, Svarloka, Maharloka, Janaloka, Taparloka* and *Satyaloka*.

[39] *Ibid.*, pp. 25-27 and 48-49, the seven *patalas* being: *Atala, Vitala, Nitala, Gabhastimat, Mahakhya, Sutala* and *Agrya*. It is also to be noted that the *patalas* are not synonymous with the Judeo-Christian concept of hell. They are luxurious places.

[40] HS, p. 90.

[41] For example: Latin cross, Greek cross, Tau cross, etc.

[42] TC, p. 70 and HS, p. 44.

[43] MR, pp. 33 and 391.

[44] Refer to **Figure 71** in which the nested cosmos is illustrated.

[45] AS, pp. 29-34 and 192-202. TC pp. 10-11 and 69-71.

[46] HS, pp. 43-44.

[47] VM, p. 837, describes *Vastupurusha* as a ghost of large proportion It is also a name that is associated with *Vishnu*.

[48] HS, *loc. cit.*

[49] HS, pp. 45 & 56. BD, pp. 37-39, lists the 32 *mandala* forms, notes that although sources as the *Manasara* uses the term "mandala" for the forms noted, the *Mayamatam* generally utilizes the term "diagram." The 32 forms are (Note: the numbers in parentheses are the square roots and the number of *pada* in the *mandala*): *Sakala Mandala* (1), *Pechaka Mandala* (2 √ 4), *Pitha Mandala* (3 √ 9), *Mahapitha Mandala* (4 √ 16), *Upapitha Mandala* (5 √ 25), *Ugrapitha Mandala* (6 √ 36), *Sthandila Mandala* (7 √ 49), *Manduka Mandala* (8 √ 64), *Paramasayika Mandala* (9 √ 81), *Asana Mandala* (10 √ 100), *Sthaniya Mandala* (11 √ 121), *Deshiya Mandala* (12 √ 144), *Ubhayachandita Mandala* (13 √ 169), *Bhadramahasana Mandala* (14 √ 196), *Padmagarbha Mandala* (15 √ 225), *Triyuta Mandala* (16 √ 256), *Vratabhoga Mandala* (17 √ 289), *Karnashtaka Mandala* (18 √ 324), *Ganita Mandala* (19 √ 361), *Suryavishalaka Mandala* (20 √ 400), *Susamhita Mandala* (21 √ 441), *Supratikanta Mandala* (22 √ 484), *Vishala Mandala* (23 √ 529), *Vipragarbha Mandala* (24 √ 576), *Vishvesha Mandala* (25 √ 625), *Vipulabhoga Mandala* (26 √ 676), *Vipratikanta Mandala* (27 √ 729), *Vishvalaksha Mandala* (28 √ 784), *Viprabhaktika Mandala* (29 √ 841), *Vishveshasara Mandala* (30) √ 900, *Ishvarakanta Mandala* (31 √ 961), and *Indrakantu Mandala* (32 √ 1024).

[50] JM, pp. 50 & 53.

[51] SH, pp. 43-46. SH I, p. 48.

[52] SH I, pp. 12-14.

[53] The term *Brahman* has been used by numerous scholars to represent the neuter *Brahma* as opposed to *Brahmá*, one of the trinity. See: LY, TR, TB, etc.

[54] The commonly used descriptive names are taken from: FWB. *An Encyclopaedia of Hindu Deities, Demi-Gods, Godlings, Demons and Heroes*.

[55] The other three deities represented as surrounding the *Brahma-sthana* are ancient *Vedic* deities who in later times were relegated to the level of an *Adityas*. *Prithividhara* is not a commonly known or recognized deity. However, it is obvious that this deity is associated with the earth (*Prithivi*). As such, the masculine, *Prithu* is associated with *Vishnu*, who during *Vedic* times did not have the exalted position that he later had achieved, and was associated with the earth.

[56] HS, p. 46.

[57] *Ibid.*

[58] The bold numerals refer to the numerals in **Plate 6**.

[59] The bold numerals refer to the numerals in **Plate 7**.

[60] JM, p. 51, states that a copy was taken by one, *Vajrabhodi*, who lost the manuscript overboard on his way to China and he later recopied it from memory. However, this arrangement of a *Buddha* surrounded by *Bodhisattvas* finds numerous precedence: PR, Figure 145. p. 177; and FWB, **Plate V**, p. 971. In addition there are numerous temples in Java which are dedicated to the *Pancha-Buddhas* which indicate a similar arrangement. However, the *Dhamma-Yazika* (**Plate 63**) and the *Pentagonal Temple* (**Plate 65**) both of Pagan indicate a different solution to the presentation of the five *Dhyani Buddhas*.

[61] *Ibid.*, from which the drawing here is adapted.

[62] *Ibid.*

[63] The following sixty steps are taken from AG, pp. 55-61, as noted in the *Tanjur*.

[64] The capitalized, bold type letters and numbers refer to those found in **Plate 8** as well as **Figures 11 & 12**.

[65] The astrisked Roman Numerals refer to those found in **Figure 12**.

[66] AG, p. 65. The sixty steps are as follows:

1.	awareness of the body	mindfulness (analytical)
2.	awareness of sensations	
3.	awareness of the mind	
4.	awareness of phenomenon	

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes (Architectural Iconography) (Concluded)

5. efforts to destroy evil	efforts (moral)	Preparatory	
6. efforts to prevent yet to be evils			
7. efforts to effect yet to be good			
8. efforts to sustain good			
9. the power or desire to act	powers (psychic)		
10. the power of energy			
11. the power of thought			
12. the power to investigate			
13. the faculty of faith	faculties	Essential Conditions	
14. the faculty of energy			
15. the faculty of mindfulness			
16. the faculty of concentration			
17. the faculty of reason			
18. the force of faith	forces		
19. the force of energy			
20. the force of mindfulness			
21. the force of concentration			
22. the force of reason			
23. mindfulness	factors of Enlighten.		
24. discerning the truth			
25. energy			
26. rapture			
27. serenity			
28. concentration			
29. equanimity			
30. right view	eightfold path		
31. right aspiration			
32. right speech			
33. right action			
34. right livelihood			
35. right effort			
36. right mindfulness			
37. right concentration			
38. knowledge of the law	tenfold knowledge	Realization	
39. knowledge of others' thoughts			
40. knowledge of relationships			
41. emperical knowledge			
42. knowledge of suffering			
43. knowledge of suffering's cause			
44. knowledge of suffering's annihilation			
45. knowledge of the way of suffering's annihilation			
46. knowledge of things associated with despair			
47. knowledge of the non-productivity of things			
48. knowledge of places to preach	thirteen mystical powers		
49. knowledge of maturing of karma			
50. knowledge of states of meditation, liberation, ecstacies & union			
51. knowledge of superior & inferior faculties			
52. knowledge of all feelings & desires of beings	thirteen mystical powers	Realization	
53. knowledge of all spheres of existence			
54. knowledge of the ways to desired ends			
55. knowledge of past existences			
56. knowledge of time of death & rebirth			
57. ability to despatch evil forces			
58. the three foundations of			
59. the mindfulness of Buddhas			
60. (*avenikasmrityupasthana*)			

[67] The sequence may be likened to the "Stations of the Cross" in the Roman Catholic faith. Further it must be noted that levels that the sculptural ensemble requires that *Borobudur* must me circumambulated four times on the first level and twice each on levels two through four.

[68] MR, p. 54.

[69] BO, p. 19.

[70] "Calling the earth to witness."

[71] *Swayambhunath* and *Bodnath*, both of Kathmandu are examples.

[72] SB, p. 285.

[73] Hindu cosmological theory began with the square whereas the Buddhist began with the circle.

[74] The bold letters refer to the letters in **Plate 10**.

[75] HS, pp. 49-54, describes in some detail the various calculations necessary that go into the consideration, design and the institution of construction of a temple.

[76] *Ibid.*, p. 53.

[77] The bold letters and numerals refer to the letters in **Plate 11**.

[78] Alice Boner, and S. Rath Sharma, *Shilpa-prakasha*, Leyden: 1966 as noted by HS. These dimensions are ascribed to temples dedicated to *Shiva*.

[79] *Ibid.*

[80] Cf. "Twenty-four" (the "C" divisions), "Five" (*pancharatha*) and "Three" (triangles), pp. 13-15.

[81] SH I, pp. 5-11 and 45. HS, *loc. cit.* In addition, the terms that follow are easily found in these two sources. Stierlin tends to display and use the northern terms--e.g., *nagara*--whereas Harshananda employs the southern terminology--e.g., *vesara* or *dravidian*--in general.

[82] The bold letters refer to the letters in **Plate 12**.

[83] Most noteworthy are: *Brihadeshvara Temple*, Tanjor (used above); the *Svarga Brahma Temple*, Alampur (although in this temple does not strictly contain a *pradakshinapatha*); the *Kandariya Mahadeo Temple*, Khajuraho; the ancient *Durga Temple*, Aihole (although like the *Svarga Brahma Temple* it does not strictly contain a *pradakshinapatha*).

[84] SH, pp. 50-57.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

India and Sri Lanka

Stupa I, Sanchi, India
Thuparama Dagoba, Anuradhapura, Sri Lanka
Chaitya Hall, Karli, India
Buddhist Cave-Monastery #2, Ajanta, India
Ladh Khan, Aihole, India
Durga Temple, Aihole, India
Shiva Temple, Indor, India
Subrahmanya Temple, Manjeri, India
Kilatali Shiva Temple, Thiruvanchikula, India
Vatadage, Polonnaruwa, Sri Lanka
Tivanka Pilimage (*Lankatilaka*) , Polonnaruwa, Sri Lanka
Brahmeshvara Temple, Bhuvaneshvar, India
Garden Pavilion, Kotilal Fort, Delhi, India

In so many ways, before colonization, the influence of India on Asia in general and Southeast Asia in particular was not merely nominal, it was monumental. Colonization has come to be a term with a pejorative connotation and in many cases rightly so. Prior to its colonization and its conquest, India of all the nations of Asia possessed an influence which was unique. An influence beyond that of the aggressive, colonizing nations of the European continent and in some ways even more important than that of China.

China's influence upon its vassal states beyond its boundaries was not of truly major significance architecturally when compared to India. India exerted such a profound influence, particularly in southeast Asia, that it permeated not only the Southeast Asian Hindu structures, but Buddhist, and in isolated cases, Islamic architecture as well. Doubtless, this was because of their method of association.[1] The inherent passivity of the Hindu/Buddhist belief system allowed their ideas to infiltrate those countries with whom they were associated relatively unimpeded. This is in opposition to the natural antagonism that develops towards those who employ aggressive means in the imposition of trade, influence, beliefs and other systems. India was not alien to warfare especially within its borders and between contending states and/or rulers. Through this inherent passivity, the association between those states that were "Indianized," towards mother India was not as a vassal, but more as a sibling, albeit a younger one, sharing readily in those ideas and technologies that India had developed over the centuries.

India is not known for its colonization through conquest. This may be due to the vast ethnic diversity of India, and the size of the subcontinent. There were enough regional differences to accommodate those more bellicose states within the whole. Of course one must recognize the great Buddhist Emperor Ashoka, sometimes referred to as the Constantine of India, however, his realm remained essentially within the subcontinent. Nonetheless, the influence of India outside its geographical borders tended to be of a more passive nature rather than as the conquests of the Persians, the Mongols or the Mughals.

Both Buddhism and Hinduism accepted and amalgamated local beliefs and rites into their faiths-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

-inclusivity being one of the characteristics of their faith. This often produced interesting hybrids as is to be seen in such states as Bali, Myanmar and Thailand where animism is an integral, albeit a minor segment of popular belief systems.

Primarily through trade India spread its influence. And, the concept of the *devaraj* which found such fertile soil in the *Brahmanic* faith was further fostered by Buddhism. Great dynasties rose up throughout Southeast Asia which, in part, were patterned on the divine right and prerogatives of rule as well as divine kingship--i.e., *devaraj*. This elevated status demanded physical manifestations to under gird, buttress and enhance the divine, sovereign role. Great temples were constructed to the gods by their emissaries, or in some cases, as it was believed, by their equals. India's influence upon the architecture of the region, particularly on the exterior design styles as well as their plans, is enormous. The profusion of architectural sculpture flowing across the surface of the temples of India--from the literal or figurative to the abstract--finds few parallels in the architecture of other cultures. The temples' stone surfaces are a rich, variegated and dimensional tapestry which staggers the imagination. This love of surface decoration not only is closely related to the ethos of the region, but also to its religious practices. Doubtless, it is also due, in part to the geographic location; in as much as the weather and the angle of the brilliant sun necessitated a surface that was broken with varying shadows to relieve the eye from the dazzling reflections of the solar orb off smooth, undecorated surfaces. Additionally, these sculpture ensembles served a didactic purpose.

The very thick masonry and stone walls served a number of purposes: from the conceptual representation of the womb or cave, to the support of massive and soaring superstructures, to providing an acceptable flywheel effect between the hot daylight hours and the cool nights. In the latter sense they were ecologically most efficient.

But, it is in the basic plan of the temple where one finds the strongest influence. The square, which held important theological and cosmic implications for the Hindu, became the norm in temple architecture throughout the region. The variations--i.e., the *triratha* and the *pancharatha* plan--can be found represented in such important monuments outside of India--i.e., *Borobudur*, *Bakong* and *That-Byin-Nyu*. The Buddhist *stupa* which found its genesis in India finds countless replications, often with notable variations in the region.

Sri Lanka with its close geographic location to Mother India was strongly influenced by the subcontinent. Yet, its insular locale also allowed it a certain latitude in its cultural development. When India embraced the *Mahayana* faith and later eschewed Buddhism, returning to the *Brahmanic* ways, Sri Lanka remained true to the Old Ways, *Theravada*. It became the rejuvenating source of *Theravada Buddhism*, particularly in western Indo-China. Likewise, Sri Lanka retained and/or developed architectural styles which were its own.

Of particular importance within Sri Lanka was the "cult of the tree." The *bodhi* tree was a potent symbol which was directly associated with the enlightenment of the Lord *Buddha*. Consequently, to venerate this object, an architectural form developed known as the *bodhighara*. It assumes nearly the same iconic importance as the *stupa*. A *bodhi* tree was planted and grew in the center of a raised, circular terrace, surrounded by a balustrade. There were generally, two entrances oriented to the north and south. There are examples in India, but in Sri Lanka the *bodhighara* becomes a fully developed form. This architectural form expanded and influenced later forms--e.g., the *Vatadage* of Polonnaruwa. Construction methods and materials also assumed a certain cultural identity. The *gediges*, a structure composed almost entirely of brick for its structural integrity and form with occasional stone lintels was used extensively. Its form, generally rectangular, was elaborated upon by the Sri Lankan builders,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

attained great size and developed considerable sculptural accomplishments. The "image house" or *gandal* also became and important architectural form, derived as it was from Indian models. It developed into a form that becomes particularly associated with Sri Lanka. Similarly, the "relic house" or *vatadage*, for the most part patterned on the *bodhighara,* developed into a form that became truly Singhalese. This configuration also becomes a particular cultural icon, generally circular, roofed with an enclosed *stupa.* This circular form reflected the Buddhist-plan iconography.

True to the *Theravada Buddhist* faith, Sri Lanka influenced subsequent religious practices and architectural forms particularly the kingdoms of Pagan and Thailand. As a repository of the faith and also architectural exemplars, its influence has lasted even until this century.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Stupa I,

Sanchi, India, III C. BCE

(MB, HS, JL)

In ancient pre-Buddhist *tumuli* were erected as abodes for the spirit and to protect the earthly remains of great kings (Indic: *Chakravartin*). The form developed into the *stupa*.[2] It is suggested, that the origins of this practice--i.e., the erection of a *tumulus*--is even pre-Aryan and not necessarily limited to the region.[3] As an abode or container, it is a mystical form that relates to the contents--either human remains or some other magical substance or various spiritually endowed icons. As a structure it protects the body or contents from marauding, scavenging animals and, theoretically, from those who would pilfer its contents.

The application of the *stupa* employed by the Buddhist is essentially for neither of the above reasons, but, as a memorial, a viable visual reminder of the life, teachings and philosophy of the Lord *Buddha* or other great saints or holy personages. They "remind later generations of the great pioneers of humanity and inspire them to follow their example, to encourage them in their own struggle for liberation, and to make their hearts 'calm and happy.'"[4] The context of the structure is, therefore, shifted from the rites for the dead to the rites for the living.

The *stupa* is composed of numerous parts as is exemplified in the *Stupa I* at Sanchi. The base or *socle* (E)[5] of *Stupa I* is circular, drum-like, earth bound. There are four altars (F) at ground level which are just within the entrances of the *vedika* and aligned to the cardinal points of the compass. The *socle's* upper surface, the *medhi* (D), additionally acts as a *pradakshinapatha* and is likewise encircled by an upper *vedika* (Ga). The *anda* (C), the egg half exposed, half unexposed, half in light (male) half in darkness (female) becomes symbolic of inherent power of the two *lokas*. The appropriation of this ancient *Brahmin* symbol, the primordial egg, represents the universe, the cosmos in its exposed half. The *harmika* (B), the altar, represents that celestial sanctuary that is beholden to neither birth nor death and rests upon the *anda*. The finial is formed by a *chattra* (A), an honorific umbrella which protects the *harmika*.

The whole is surrounded by a stone, ground-level *vedika* (Gb) with four *torana* (H) oriented towards the cardinal points of the compass. The *vedika* serves to separate the sacred inner area from the temporal outer area. The four *torana* oriented as they are symbolize: the sun's progress from sunrise, zenith, sunset to nadir; as well as the *Buddha-Dharma*. This *vedika* encircles a ground level *pradakshinapatha* (J).

It is to be noted that the entrances into the ground level *pradakshinapatha* (J) is accomplished in such a manner that the right side is always towards

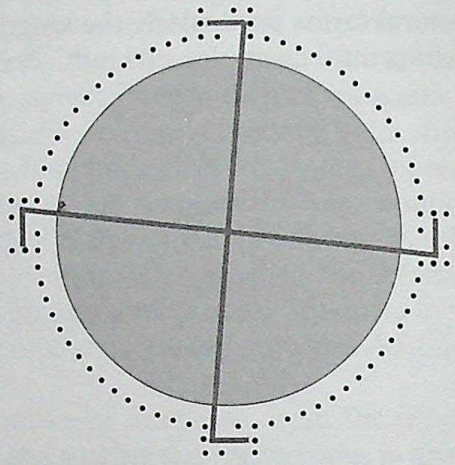


Figure 16: *sauvastika pradakshina*

the central axis.[6] This *pradakshina* with the entrances, oriented as they are, forms a left-facing swastika (*sauvastika*) (See: **Figure 16**) which is an autumnal sun symbol as well as a feminine symbol.[7] The use of the left-facing swastika is not limited to India--*Neak Pean* of Angkor also utilizes this form (See: **Appendix A, Plate 125**).

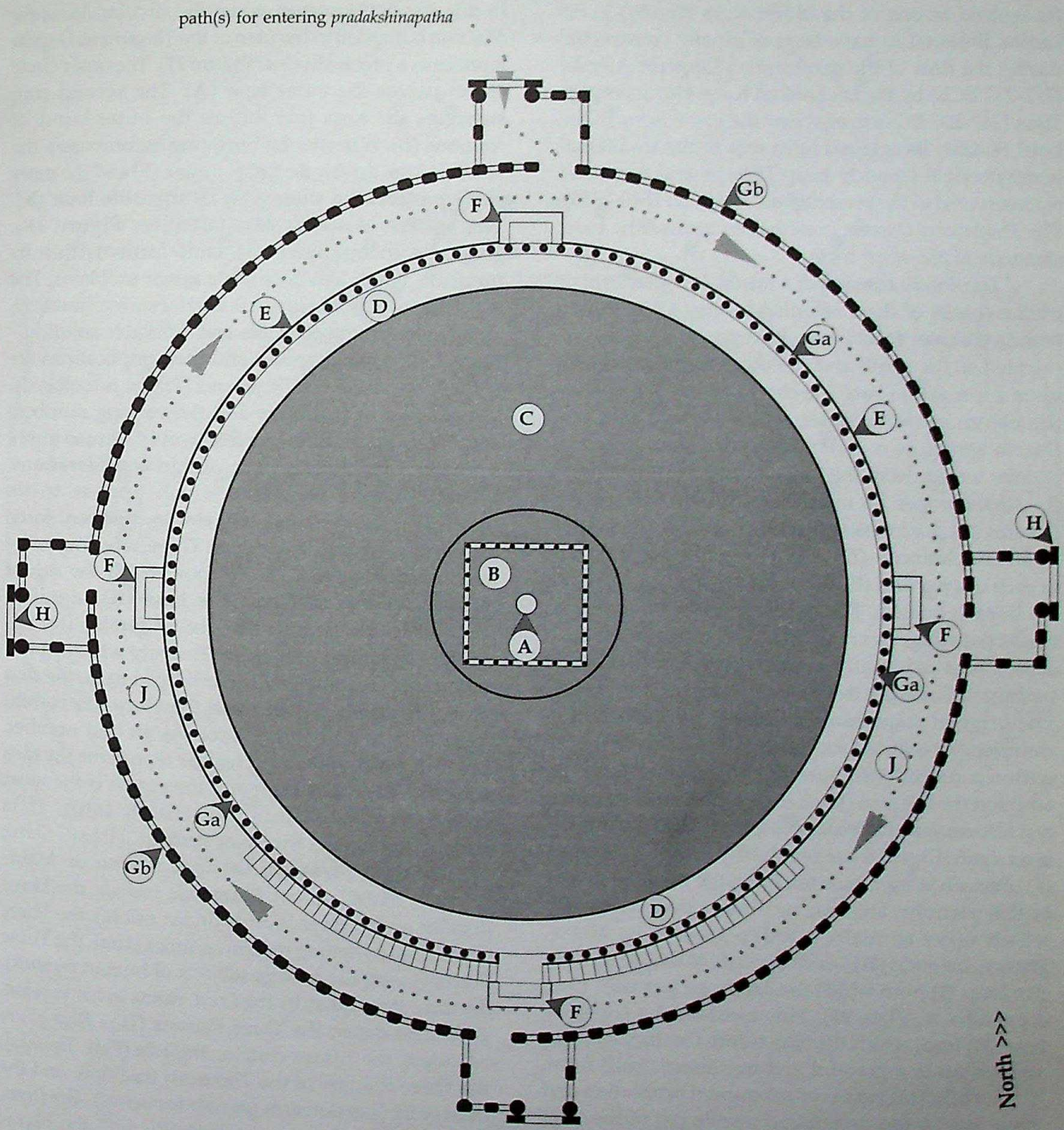
It is of further interest to note that the enclosure of the *harmika--vedika*-like--consists of eight upright members on each of the faces for a total of twenty-eight, a number that is associated with the moon's cycle (twenty-eight days), a perfect number arrived at by the addition of its divisors (1 + 2 + 4 + 7 + 14 = 28), and a number which represents the Planes of Existence (Pali: *Bhumi*).

What may be applicable to *Stupa* I, is certainly appropriate to numerous later *stupa* (See: **Appendix A, Plates 91 & 92**). They are strictly memorial architectural structures in which if there are any internal spaces, they are in fact realistically nonfunctional. Therefore, the iconic intent becomes paramount, the form follows the function. The *stupa* becomes both form and function in one massive, solid architectural icon.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 13 -- *Stupa I*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Thuparama Dagoba

Anuradhapura, Sri Lanka, III C. BCE

(AG)

The *Thuparama Dagoba,* of Anuradhapura, is recognized as one of the oldest *stupa* (*dagoba*) in Sri Lanka. Believed to have been originally constructed during the time of the great Indian Emperor Ashoka (272-232 BCE) by the Sri Lankan King, Devanampiya Tissa (247-207 BCE) to enshrine the collar bone of the Lord *Buddha*. Its original form was in the traditional hemispherical ("paddy heap") shape and was later reconstructed in the present "bell" shape (c. 1840-1850). The *Thuparama Dagoba,* nonetheless, retains the basic elements of the *stupa* form.

The *dagoba* consists of a raised, low platform or terrace (basis) of three receding levels (**A**)[8] with two broad staircases reaching to its topmost surface, one oriented to the south and the other to the north. Set upon a low raised base is a circle of forty-four pillars (**B**), eleven in each quarter, which in the *Thuparama Dagoba* serves as a vertical element separating the circular terrace from the inner elements. It delineates the *dagoba* proper. Set upon this base is a raised, wide, flat area (**C**). Two ranks of columns (**D** & **E**) are placed upon this platform--(**D**) with a forty column rank, ten in each quarter and (**E**) also with a forty column rank, ten in each quarter. The outer rank (**D**) is shorter in height than the inner rank (**E**) which suggests that this *dagoba* was originally a *vatadage* (relic house) of traditional Sinhalese design--i.e., roofed and enclosed. The original *stupa* (*dagoba*) would have been of a considerably reduced form and scale to allow it to rest within a roofed structure of the *vatadage* type. In addition the flat area (**C**) upon which these two ranks rest also serves as a *pradakshinapatha*. A third platform is set upon (**C**) and is surrounded by fifty-two columns (**F**), thirteen in each quarter. From the cardinal points of this platform are four rectilinear projections (**G**) which serve as main worship areas--i.e., altars. Thence, the socle (**H**) which consists of a wide terrace-like form (**J**) from which the *dagoba* proper rises (See: **Appendix A, Plate 91**). This consists of a tripartite base (**K**) from which the Nineteenth Century *anda* (**L**) sweeps up in a graceful and traditional "bell" form. The *harmika* (**M**) here is of substantial proportion and gives way to the crowning elements (**N**) of the stem and seven level *hti* (*chattra, kota*). Also of later date, and indicated as the gray form to the upper left in **Plate 14**, is a later enclosed sanctuary-like area projecting across level (**C**) and to the outer edge of level (**A**) in a northwesterly direction.

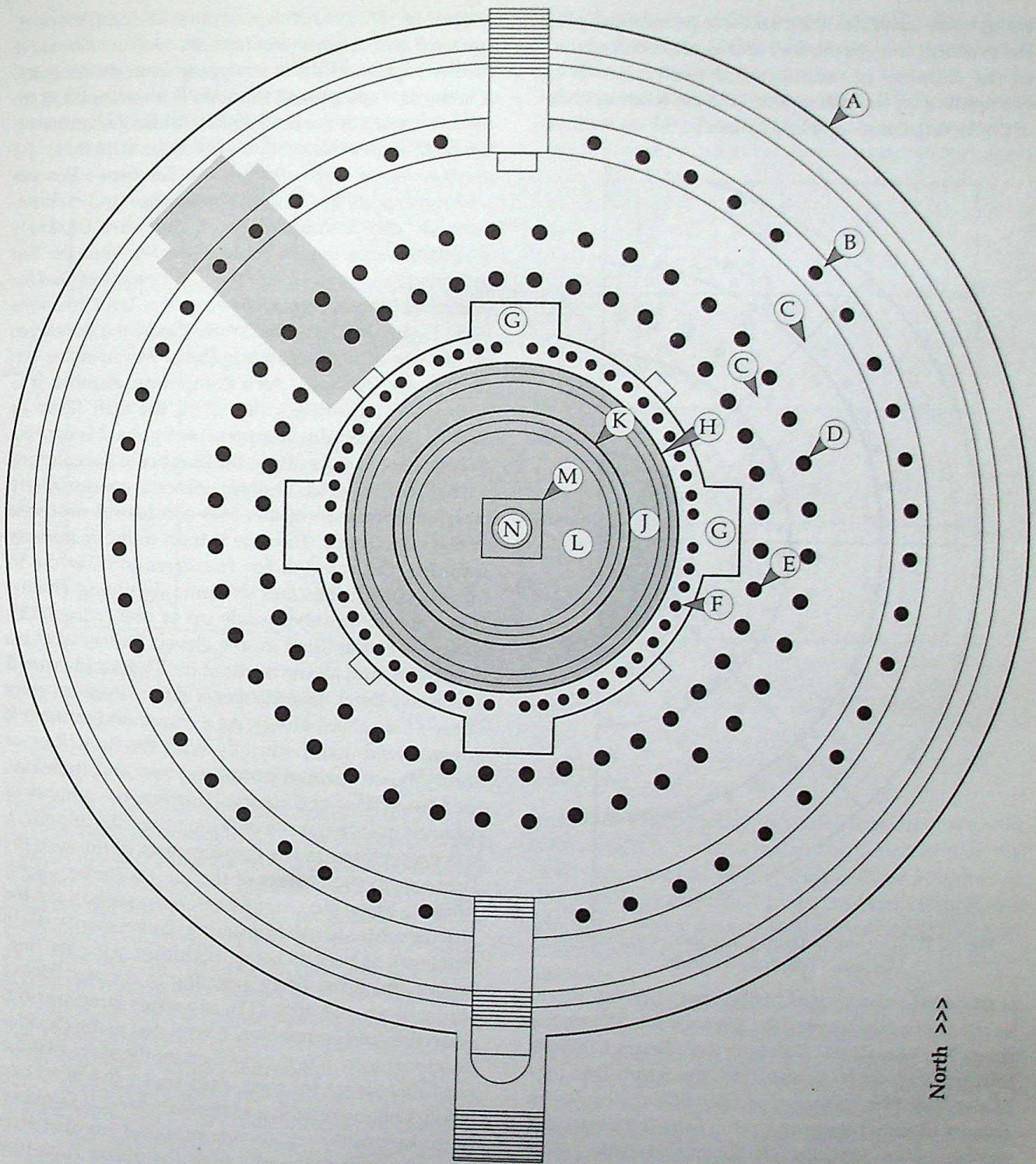
The *Manduka Mandala* appears to be applicable to this *dagoba*. However, when the circular *Manduka Mandala* is applied to the plan of the *Thuparama Dagoba* it presents a precise fit (See: **Figure 17**). The outer circle encompasses the outer base (**A**). The second ring encircles the area just within the outer band of columns (**B**). Whereas the third ring encompasses the second of the double ring of columns (**E**) and the inner circle protects the *stupa* with its tripartite base (**K**). The square *Manduka Mandala* (See: **Figure 18**), generally, incorporates the same forms within its precincts, but it does pose some minor problems. The application of the circle to a Buddhist shrine, however, appears to be a more viable and workable solution.

To say the numbers and their implications are of little concern in the *Thuparama Dagoba* is foolhardy. The number of platforms and the varying numbers of columns in the different ranks would seem to imply something more than mere design considerations. There are nine numbers which appear to be significant: three, seven, ten, eleven, thirteen, forty, forty-four, fifty-two, and eighty. Three, referring to the three platforms (**A, C, & F**) upon which the *dagoba* rests as well as the tripartite base (**K**), signifies perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva;* the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali; trishula;* the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar;* the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). As the first masculine number (odd), the powerful and sometimes fierce planet/deity is an apt symbol. Seven, referring to the discs in the *hti* (**N**), denotes the sacred, the mystic

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 14 -- *Thuparama Dagoba*
(AG)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

being made up of the spiritual three (masculine) plus the practical four (feminine) and is often considered as the number of creation and perfection. It is exemplified in: the planet *Ketu* (the descending node of the moon), the seven Hindu planets; the seven days

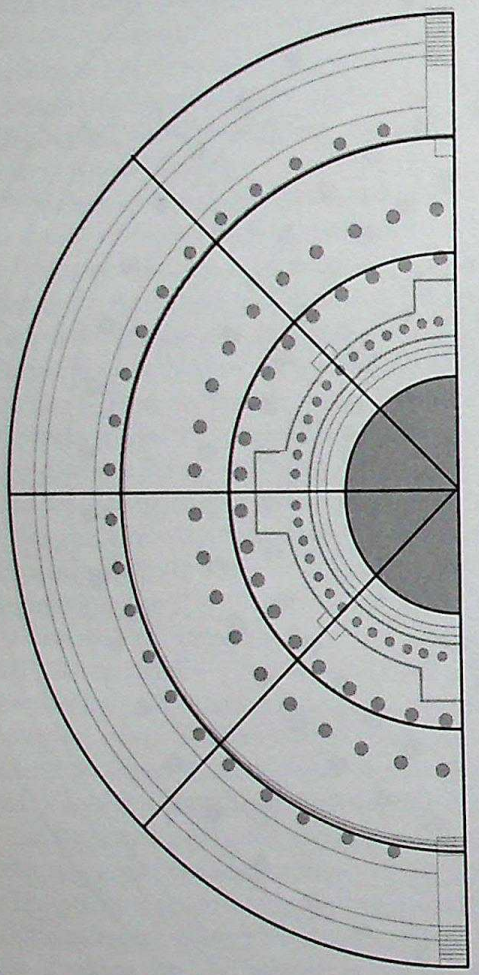


Figure 17: *Thuparama Dagoba*, half plan indicating a circular *Manduka Mandala*

of the week; the phases of the moon; Seven Royal Jewels (Indic *Saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Mothers (Indic: *Saptamatrikas*); Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the Seven Factors of Enlightenment (Indic: *Satta-bojjhanga*); the seven sites of *Buddha's* meditation after Enlightenment; and within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya's* chariot, the seven streams of *soma*, etc. Ten, referring to the number of columns in each quarter of (**D**), connotes perfection or completeness, success, and cosmic wisdom, as well as *karma*. It further represents unity emerging from multiplicity. It is the first compound number. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *dashavataras*); the *dasha-vahini-kala* (ten powers of the vital fire); the *dasha-yonis* (or *dasha-shaktis*); the Ten Sense Powers (Indic: *indriyas*); the Tenfold Knowledge (Indic: *dasha-nanam*); the *dasha-siddhis* of the *Shri Chakra's Trailokyamohana*; the ten books of the *Rig-Veda*; the Ten Insights (Pali: *solasa-nana*); the Ten Powers of *Buddha* (Indic: *dashabhala*; Tib.: *sTobs-bCu*); the Ten Directions (Tib.: *Phyogs-bCu*); the Ten World Gods; the ten stages in the life of a *Bodhisattva*; *Dasha-Mahavidyas*; ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*). Additionally, it represents by the *Manipuraka Chakra*. Eleven, referring to the number of the columns in (**B**) in each quarter, denotes universal energy, liberty and the transience of life. It is considered obstinate and revolutionary. To some it is an unlucky number (Hindu), the number for transgressions, while to others is auspicious and dynamic signifying vitality. It is a mystic number made up of one twice (1\1). Eleven is exemplified in: the eleven *Rudras* who are destroyers; and eleven heads of the Thousand-Armed Thousand-Eyed *Avalokiteshvara* (Tib.: *sPyan-ras-gzigs Phyag-sTong sPyan-sTong*). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*). When reduced it produces two, and, therefore, the Moon (*Soma* or *Chandra*). Thirteen, the number of columns in each quarter of (**F**), signifies the imperfect. It is exemplified in the thirteen discs of the *kota*; the Thirteen Mystic Powers of the *Buddha* (Indic: *Dasha-tathagata-balani* plus *Avenikasmrityupa-sthana*); and the Thirteen Means of Removing Defilements (Pali: *dhutanga*), as well as being associated with: the Sun, Jupiter and *Rahu*. Forty, referring to the numbers of columns in the row (**D**), signifies preparation, perfection and completion, it is related to the Pleiades disappearance. It is exemplified in: the story that the Lord *Buddha* sat for forty days under the pipal tree before Enlightenment; and the forty Mental Exercises (Pali: *kammatthana*). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon). Forty-four, referring to the columns in the outer row (**B**), is the double four and therefore denotes success, completeness and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Thuparama Dagoba (Concluded)

perfection. This number underlines preparation, perfection and completion as 40 + 4 = 44. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon). When reduced it produces eight and, therefore, the planet Saturn (*Shani*). Fifty-two, referring to the inner circle of columns of (**F**) denotes the transitory. It is exemplified in the Fifty-two Mental Commitments (Pali: *cetasika*). As a compound number it is associated astronomically with the planet Mercury (*Budha*) and the Moon (*Soma* or *Chandra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Finally, eighty, referring to the columns in the ranks **D** and **E** combined, denotes to perfection and completeness. It is exemplified in the story of the Lord *Buddha* that in his eightieth year he died, completing his life on earth. Additionally, there are eighty secondary signs that are the recognizable in an Enlightened One. It is associated astronomically with the planet Saturn (*Shani*).

The plan of the *Thuparama Dagoba* with its multiple rows of columns appears to represent what may have been a *vatadage* (relic house) as a number of sources suggest. A relic house, which contained a small *stupa* within a circular, roofed chamber, usually possessed a solid outer wall with appropriate entrances. The *Thuparama Dagoba* does not indicate such a wall. However, since it has undergone a number of apparent transformations over the centuries, it is possible that at one period of time that wall was removed leaving the present configuration. If the various platforms are indicative of the original platforms, then it is conceivable that the wall may have existed between ranks **B** and **D**; possibly at the rise of platform **C**.

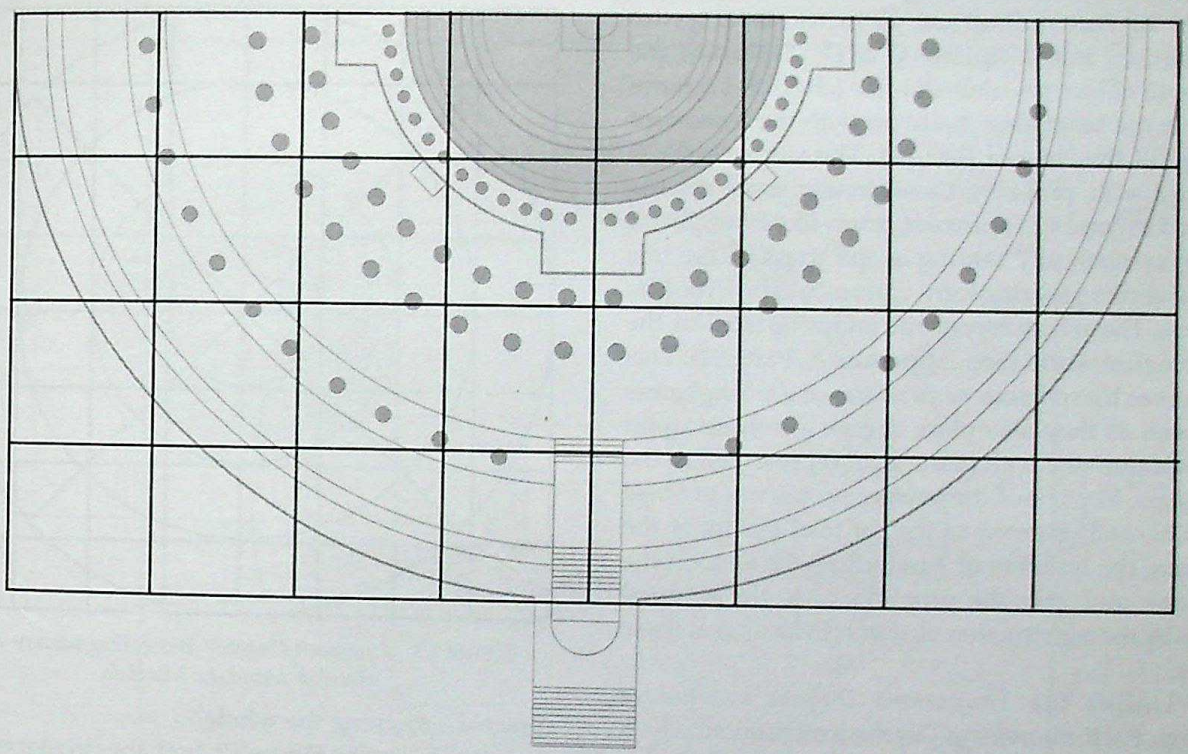


Figure 18: *Thuparama Dagoba*, half plan indicating a sixty-four *pada* grid

The early Singhalese *vatadage* may well have been influential in the design of the later (early) Hindu temples of southern India particularly in the Kerala (See: **Plate 21**). The close proximity of Sri Lanka and the fact that social and economic intercourse was common during this period makes that assumption appear viable. Further, the direction and aesthetic independence that the kingdoms of Sri Lanka exerted is seen in other aspects of the arts of the sub-continent.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ruvanveliseya Dagoba

Anuradhapura, Sri Lanka, II-I C. BCE

(AG)

Built between the First and Second Centuries BCE, the *Ruvanveliseya* (var.: *Ruwanweliseya*) *Dagoba* marks several standards or variations that had been adapted by the early Singhalese builders. The circular, layered *basis*, which finds its genesis in *Stupa I* of Sanchi and further promulgated in the *Thuparama Dagoba* of Anuradhapura, is in the later years transformed into a square--C & D.[9] Likewise, the *chattravali* of Sanchi--umbrella-like (*chattra*)--becomes fused in the Singhalese tradition with the important concept of the "tree of life" (K). The simple pole or standard with, probably, three circular stone discs is mutated to consist of a circular, drum-like form (*devata kotuva*) symbolically serving as the trunk of the tree and the conical, soaring form variously called: *hti, kota* or *kunta*. The whole represents an iconic axis for the cosmological world (See: **Appendix A, Plate 92**). This icon serves the religious sensibilities of the Singhalese very well as they also place special emphasis upon the *bodhi* tree--the "cult of the tree" represented in the *bodhighara*. In place of the *toranas*, prominent at *Stupa I*, Sanchi, and oriented to the cardinal points of the compass, the builders of Anuradhapura forsook the gateways and gave the prominence to the cardinal points by the construction of altars (E) located at these points.

Unlike the *Thuparama Dagoba's vatadage* heritage, the *Ruvanveliseya Dagoba*, a monument which stands open, consists of two raised square platforms (C & D), the upper platform (D) being proportionally smaller in size. These two square terraces in addition to supporting the *dagoba* proper, also serve as a *pradakshinapatha*. At the cardinal points of these two platforms are staircases (B) which give access to the upper level(s). The main entrance (A), the southern entrance is somewhat more elaborate. Unlike previous and subsequent Buddhist temples from other cultures, the Singhalese tended to orient their *stupas* to the south. The reason being that they felt that the most important happening in the life of the Lord *Buddha* was his Enlightenment under the *bodhi* tree. This event is connected to the sun, at its highest point, the south, hence, this orientation. Upon the upper, square terrace (D) is to be found a circular podium (*socle*) (F), and upon this rises the *dagoba* proper. It consists of a tripartite bases (G) which supports the hemispherical *anda* (H) in the "paddy heap" form that was consistent with early *dagobas*. At the cardinal points of the compass, and resting on the circular terrace (F) are four altars (E), the main one to the south. Upon the *anda* a rather substantial *harmika* (J) rests. This *harmika*, which is a later restoration, indicates in relief the standards and rails of the *harmika* found in *Stupa I*, Sanchi. From this point the *chattravali* (K) (*hti*) soars upward, crowning the whole.

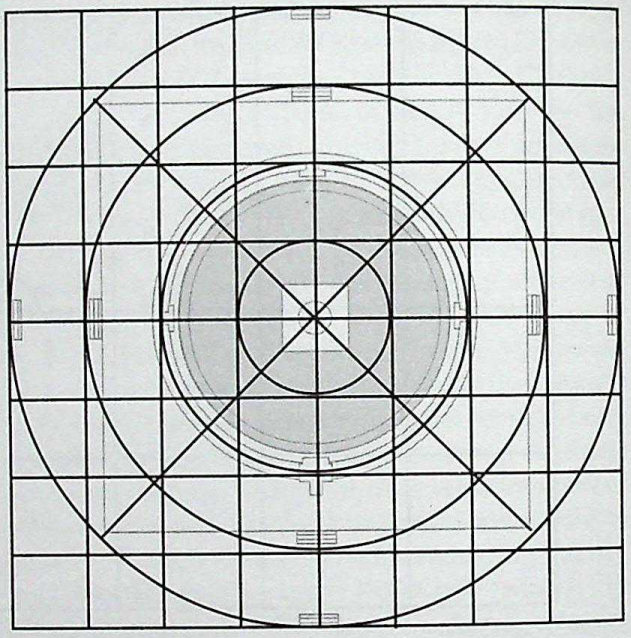


Figure 19: *Ruvanveli Dagoba*, indicating square and circular *Manduka Mandala*

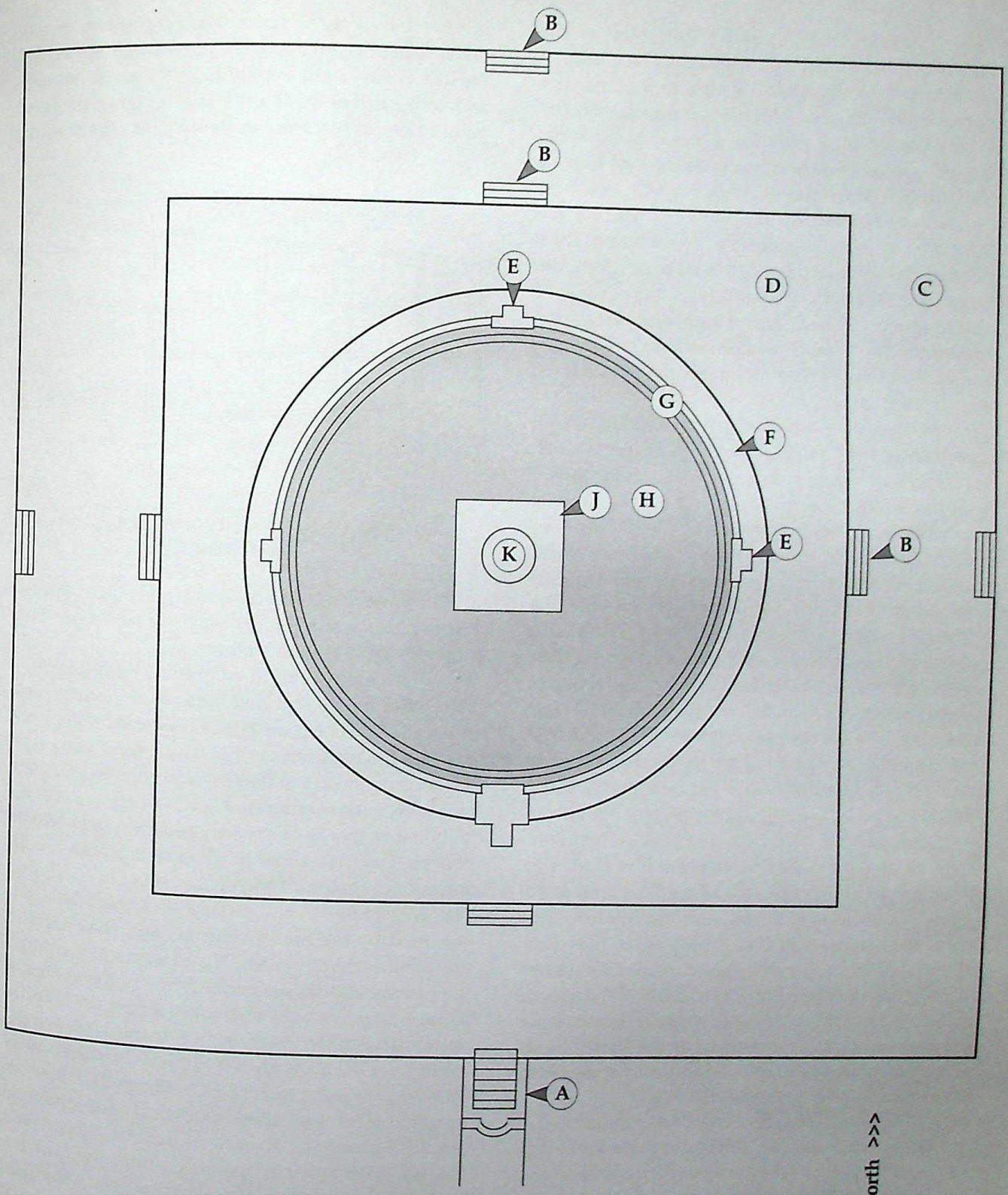
As is seen in **Figure 19**, both the circular as well as the square *Manduka Mandala* is applicable. It is to be noted that within this figure the outer circle is within terrace C, rather than including it completely. If the circular *mandala* is extended to include all of this terrace, then other problems arise.

Iconographically, the *Ruvanveliseya Dagoba* establishes an important cosmological symbol--i.e., the use of the square and the enclosed circle/sphere (See: **Appendix A, Plate 105**). The square which was the sacred shape for the Hindus becomes for the Buddhist a representation of the terrestrial. The circle/sphere/hemisphere, therefore, becomes the Buddhist symbol of the celestial. Here, the superimposed low square terraces support the round *socle* and *anda*, providing a visually apt example for a theological concept. The plan of *Ruvanveliseya Dagoba* becomes an icon for the supremacy of Buddhist cosmos, a cosmos that is later represented in such forms as the *Vajrayana thangka* and the incomparable *Borobudur*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 15 -- *Ruvanveliseya Dagoba*
(AG)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chaitya Hall,

Karli, India, I C. BCE

(MB, HS)

The *chaitya* hall(s) at Karli as well as the numerous other monolithic, subtractive architectural monuments in India, basically refer to the cave as a conceptual device (See: "Architectural Iconography," above). Due to their physical, geographic location, they do not necessarily conform to the east to west axis of the additive monuments. Nonetheless, they are always oriented towards water which, for the *Theravadists* especially, is a prime consideration. Their location(s) within the high rocky defilements bordering rivers is not merely a happening of convenience. There are numerous locations throughout the area, at a close distance to a water source, with appropriate rock faces that could have been utilized.

En plan, the form of many of these halls have been described as "apsidal." They are, in general, axial. Certainly, the presentation of a rectangular, colonnaded hall terminating in a colonnaded semicircle would seem apropos of the description, apsidal. The basic form--i.e., the rectangle--may well possess earlier precursors in which flexible wooden poles, possibly bamboo, would have been set into the ground, arched over and lashed together and stabilized.[10] This framework's roof area would then have been covered with thatch, probably, and the sides may have been either thatch or woven material (See: **Figure 20**). The application of the circle or semicircle tends to be a form utilized by the Buddhists more frequently. It was employed as their prime form, probably as a means of setting themselves apart from the parent faith. It is to be noted that earlier *Vedic* precincts tended to be quadrangular. It is further to be noted that the proposed wooden precursor formed a barrel vault as did the monolithic interior. Yet, neither the Hindu or the Buddhists utilized the barrel vault or the "Roman" arch in their constructions either in India or in any of the Indianized states of the region, preferring the corbel arch. Since neither religions were congregational, the eschewing of the barrel vault which has the ability to span wide areas for the older, established form is understandable.

The cella with its long rectangular space, flanked by aisles and an ambulatory was eminently applicable to Buddhist needs. The aisles and ambulatory lend themselves to *pradakshina*, a form of *puja* applicable to both faiths. Access to this inner area is achieved via three doors. The central entrance is wider than the flanking two. The *chaitya*, the focus of the hall, is frequently carved from the same mother-rock as the rest of the interior and becomes the focal point of the whole. Here in the *Chaitya Hall* at Karli,

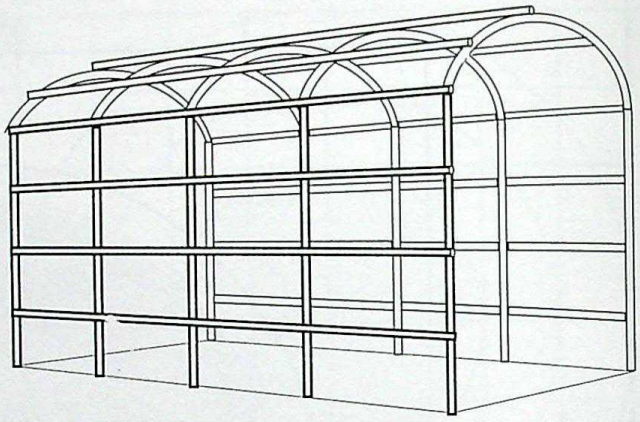


Figure 20: suggested bamboo/wooden precinct construction

are thirty-seven columns within the inner space--fifteen on each side (nave) aisle and seven in an arc around the "apse," the ambulatory.

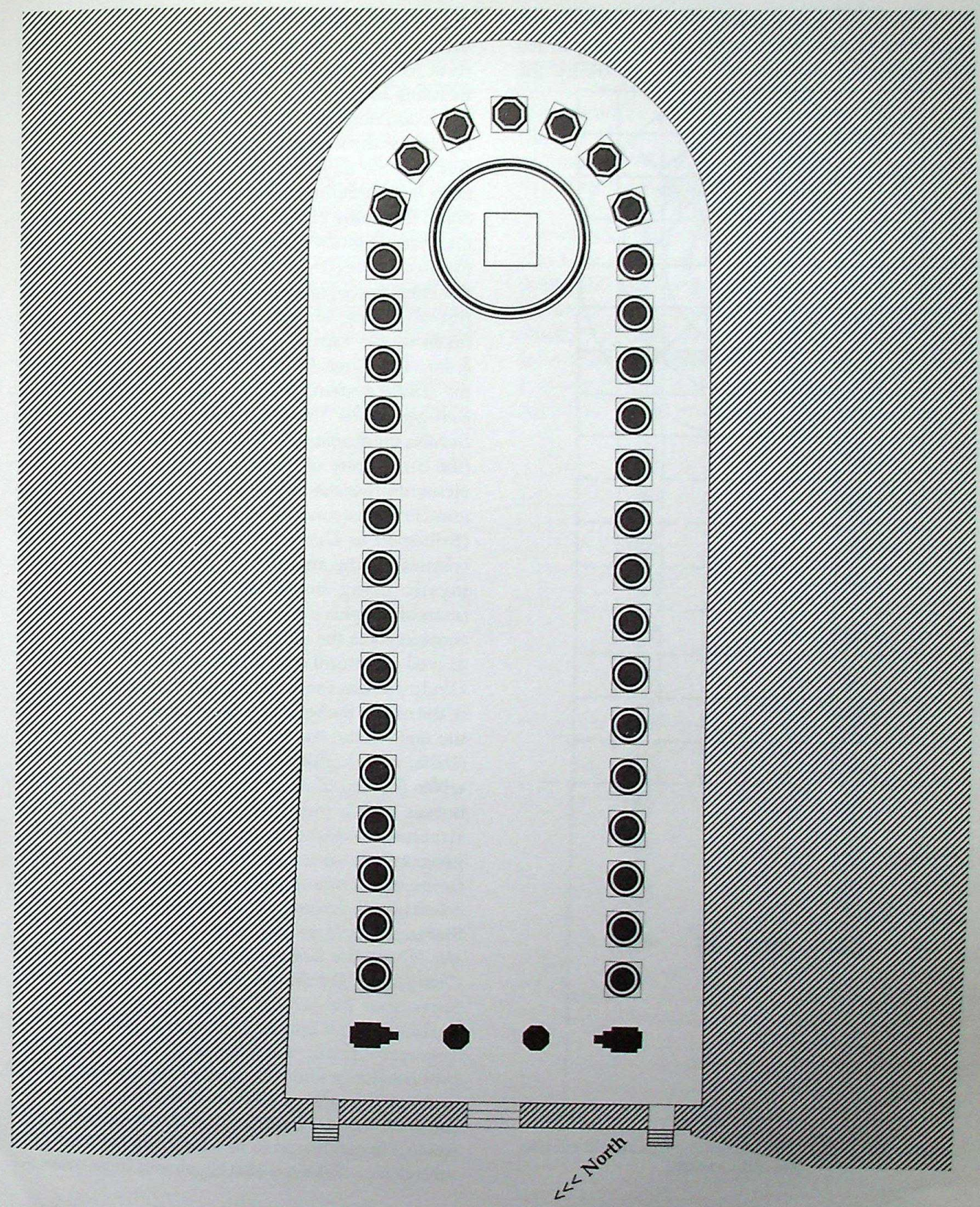
The employment of the circular *Manduka Mandala* to the *Chaitya Hall* indicates an indisputable application (See: **Figure 21**). Of course the outer circle encloses the *pradakshinapatha*. The second band rests just outside the arc of the surrounding columns. The area between the outer and second ring protects the ambulatory (*pradakshinapatha*) and those who would perform *puja* there. The third circle is just inside the surrounding columns and encloses the *chaitya* proper. The area between the second and third bands is occupied by the arc of columns and they are also protected within this area. The inner circle surrounds the *harmika* and those central forms of the *chaitya*. A square *mandala* also indicates a certain level of suitability, particularly when imposed over the columns of the nave. Each column rests within one of the *mandala's padas*. As is noted in **Figure 21**, that when the *mandala* is repeated two more times, the third form extends beyond the opening of the Hall. This would clearly indicate that the nave falls beyond the considerations of cosmic/design practices. Later axial designs appear to be incorporated within a repeated *mandala* (See: *Durga Temple*, below).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 16 -- *Chaitya Hall*

(HS)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

There are five numbers which appear to be applicable to this structure. Three, referring to the three entrances, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit) being: *dharma, artha, kama*; the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Seven referring to the seven columns of the ambulatory, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Fifteen, referring to the aisle columns, denotes cosmic completeness, destiny. This number is considered to be a fatal number associated with chance. Fifteen is also auspicious in its make up.

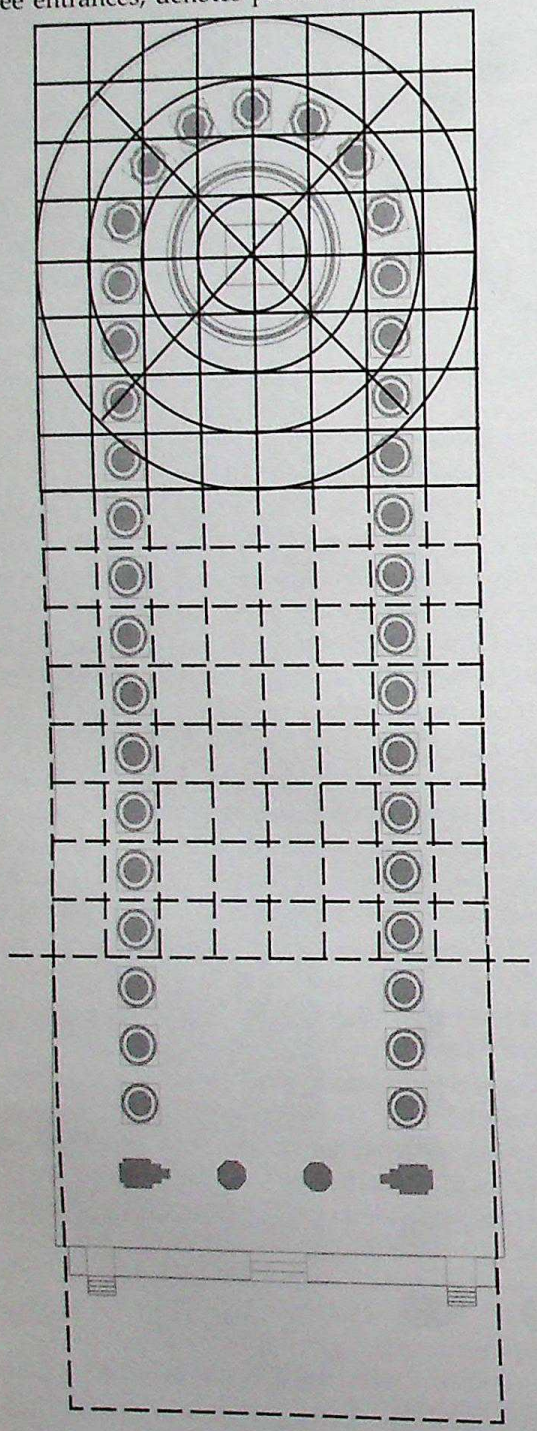


Figure 21: *Chaitya Hall,* indicating square and circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

It is exemplified in: the fifteen world planes being: six in *kamaloka*, five in *rupaloka* and four in *arupaloka*; the fifteen letters (*panchadashi*) of the *Shri Vidya mantra*; the fifteen *Tithis* (*panchadasha-Tithis*); and the fifteen *Nityas* (*panchadasha-Nityas*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Mercury (*Budha*). When reduced it produces six and, therefore, the planet Venus (*Shukra*) (6). Thirty, referring to the combined number of aisle columns, denotes a psychic numeral and is auspicious in its make up. It is exemplified in: the classes of beings in the three spheres--i.e., ten in *kamaloka*, sixteen in *rupaloka*, and four in *arupaloka*; Lord *Krishna* assumed 64 *vidyas* in thirty days, the number of days in a solar month; and 1/12 of a circle ($30 \times 12 = 360^0$). As a compound number it is associated with the planet Jupiter (*Brihaspati* or *Guru*). Thirty-seven, referring to the total number of columns, denotes order and harmony. In *Theravada Buddhism* the number represents the thirty-seven *dharma* of the *Bodhipakaya*. As a compound number, it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) and the planet *Ketu* (the descending node of the moon). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*).

Although the form (*apsidal*) tends to be the framework utilized primarily by the Buddhists, it has also been employed to a lesser degree by the Hindu faith. The *Chaitya Hall* at Karli, although not the archetype *en plan*, stands at the acme of the genre. Finally, it is to be noted, that although it was the usual form (plan) in subtractive architectural monuments employed by the Buddhists, it was not utilized to any significant extent in additive architectural forms.[11]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Buddhist Cave-Monastery #2

Ajanta, India, II C. BCE

(HS, MB, JL)

The *Cave-Monastery #2* of Ajanta, is a paradigm for numerous *vihara* in which subtractive architecture has been employed. Additionally, it obviously served as a model for later constructed monasteries, including the *kyaung* of *Pagan* (See: **Appendix A, Plate 140**). The monastery/*viharas* of Ajanta as well as the smaller monasteries of the region under consideration, notably Pagan, consisted of a single unit within which were various elements--i.e., sanctuary(s), cells for the monks and other spaces (library and administrative areas).

The *Cave-Monastery* #2, an axial and a *mandala* based plan[12] consists of: an inner sanctuary area (**A**)[13] centered on the east wall with its own vestibule (**B**^{1}); two chapels (**C**) flanking the inner sanctuary on the east wall; ten cells (**D**^{1} & **D**^{2})--five to the north of the central hall, and five to the south; a larger space (**E**), *vihara*-like, with twelve columns, four on each side forming a square flanked on three sides by the cells and the chapel/sanctuary area; three doorways corresponding to the doors entering the sanctuary area and the two flanking chapels are situated to the west; these areas are separated from the exterior by a long, narrow narthex-like space or vestibule (**F**) to west; two shrine-like rooms (**G**) to the north and the south of the vestibule (**F**), both with their own vestibule-halls (**B**^{2}); and from this narthex-like space five entrances offer egress to the outside.

The inner sanctuary (**A**) area on the east wall consisting of two spaces, one serving as a vestibule (**B**^{1}) which gives way to the inner cubicle, the inner sanctuary is central to the whole. There is a tripartite entrance to this vestibule the space of which is larger than the inner sanctuary and gives way to that space in a series of spacial reductions. Within the inner sanctuary there is a raised area on the far (easternmost) wall of this chamber. It is obvious that it served as the principle altar for the whole ensemble. This *sanctum sanctorum* (*garbha-griha*) doubtlessly possessed an image(s) or a symbolic representation--such as an eight-spoked wheel flanked by kneeling deer--of the Lord *Buddha*. The inner sanctuary was set well within the accompanying spaces, underlining the cave, the *garbha-griha*, the womb. Its location, deep in the interior and the narrow portals which gave access to this area insured its dark innermost space. There are two chapels flanking the entrance to the inner sanctuary area identified as (**C**). These chapels, with their triple portals, mirror the vestibule (**B**^{1}) of the inner sanctuary. Precisely which image(s), if any, they contained is not known.

The north and south walls of the central space each possess five cubicles (cells) (**D**^{1} & **D**^{2}). Each cell

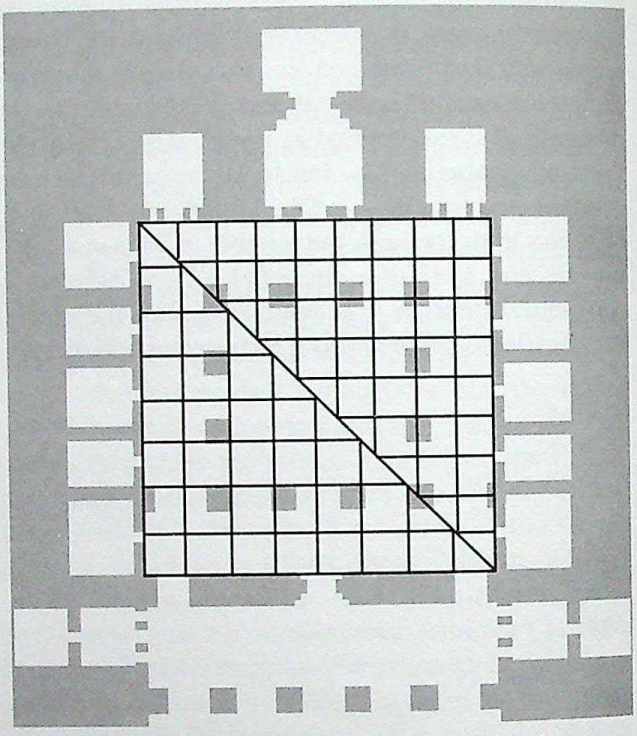


Figure 22: *Buddhist Cave Monastery* #2, central area, indicating sixty-four and eighty-one *pada* grid

opens unto the main space (**E**) via a single portal. These cubicles mirror each other from north to south; the inner three (**D**^{2}) of each wall are approximately the same size and rectangular, while the outer two (**D**^{1}) are larger and are close to square in shape.

To the west of the ensemble is a long rectangular space (**F**) which serves as a vestibule (narthex) to the whole. To the north and to the south of this space are triple portals leading to square vestibules (**B**^{2}). These vestibules, in turn give way via a single portal to shrine-like rooms (**G**). The western facade of the whole contains five portals which give way to the western vestibule (narthex) (**F**).

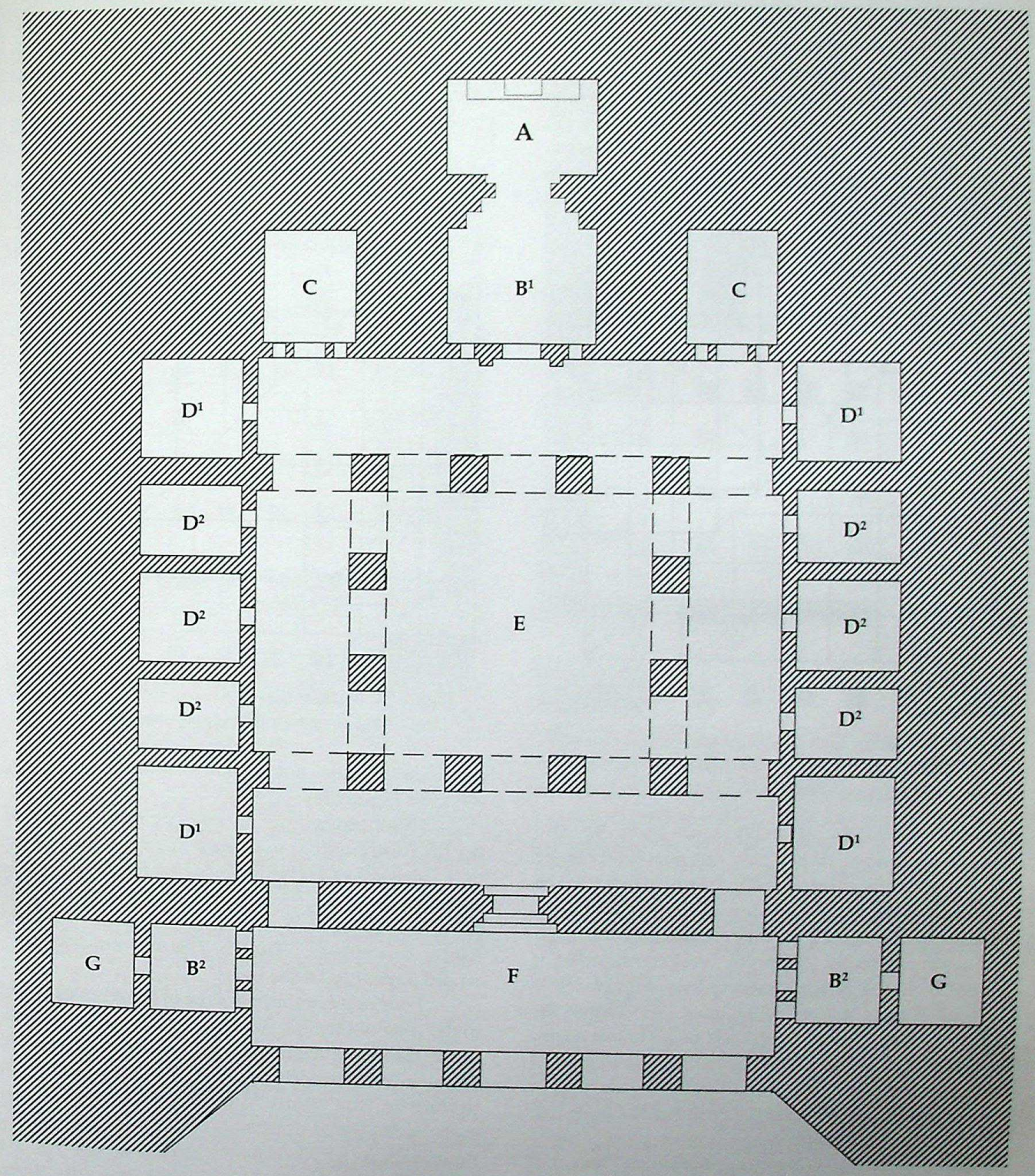
The five sanctuary/chapels (**A**, **C** & **G**) also pose a conundrum. Certainly (**A**) was the main altar area with a representation of the Lord *Buddha*. But, what of areas (**C** & **G**)? The construction of this monastery predates the Mahayanist concept of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 17 -- Buddhist Cave-Monastery #2

(AG)



<<< North

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Pancha Buddhas. Perhaps, they contained representations of saints or possibly *Bodhisattvas*.

When attempting to impose a *mandala* upon the *Cave-Monastery #2* of Ajanta, certain problems become apparent--with the exception of the main space (E) which appears to finds its design/iconic basis in the

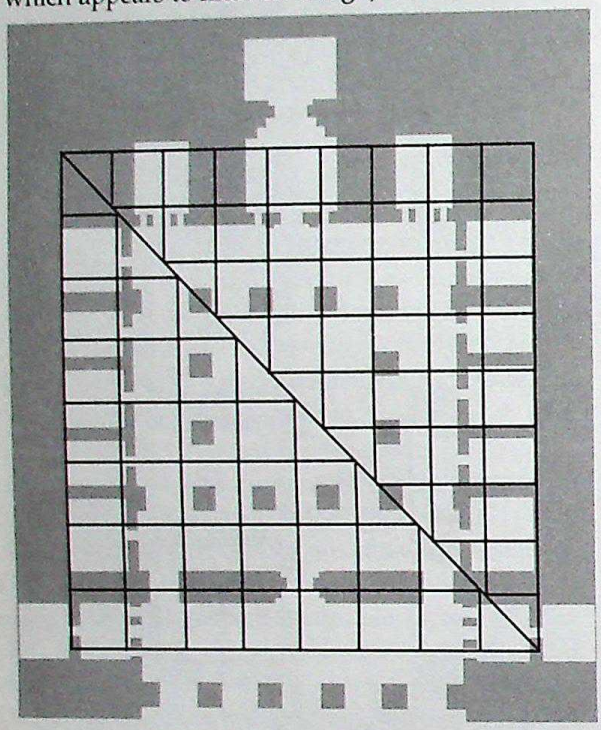


Figure 23: *Buddhist Cave Monastery* #2, central area and surrounding cells, indicating sixty-four and eighty-one *pada* grid

Manduka Mandala of sixty-four *pada* or the *Paramashayika Mandala* of eighty one *pada* (See: **Figure 22**). If the surrounding cells (D^1 & D^2) are included as establishing the outer confines of the *mandala* grid, the eastern chapels (C), the main chapel (A), the north and south vestibules (B^2) or the western chapels (G) are not included in their entirety (See: **Figure 23**). If the total interior spaces are included (See: **Figure 24**) within either a *Manduka Mandala* or a *Paramashayika Mandala*; it is to be seen that numerous insoluble problems are presented, in particular the shifting of the central axis away from the center of the large hall (E). A circular *Manduka Mandala* does present some solution, particularly regarding the central area, but its viability breaks down when application to the outer areas is sought. When applying a circular *Manduka Mandala*, basing its dimensions on the central area (E), and including the ten cells (D) a number of areas appear to 'fit' within its confines (See: **Figure 25**). However, as with **Figures 23** and **24**, problems become apparent--e.g., the sanctuary lies outside the *mandala*. Finally, if a circular *Manduka Mandala* centered on the hall (E) and including the sanctuary solves some

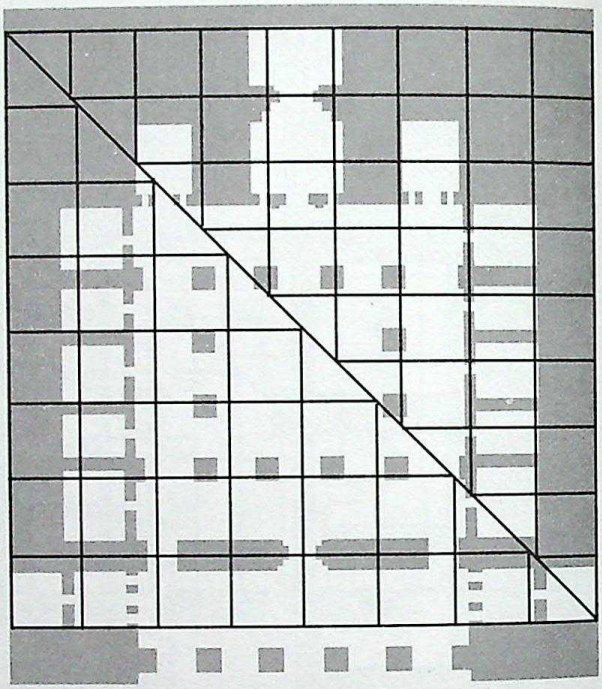


Figure 24: *Buddhist Cave Monastery* #2, the whole, indicating sixty-four and eighty-one *pada* grid

problems, but does not include all of the two chapels (G) (See: **Figure 26**).

Other possibilities are evident: the central area (E) fits neatly within a *mandala* of twenty-five *pada*; or, a *mandala* of forty-nine *pada* easily encloses the eastern chapels (C), the central space (E) and the cells (D^1 & D^2). The central area (E) as well as the Buddhist trinity concept--i.e., *Buddha, Dharma* and *Sangha*--would appear to be the key.

Four numbers appear to be of some importance in the plan of the *Cave-Monastery* #2. Three, referring to the three interior doorways and the triple spaces of the eastern interior--i.e., C, B^1 & C--denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is exemplified in: the Three Regions or the Three Worlds (Indic: *triloka*); the Three

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Cities (Indic: *tripura*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); and the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks). It is associated astronomically with the planet

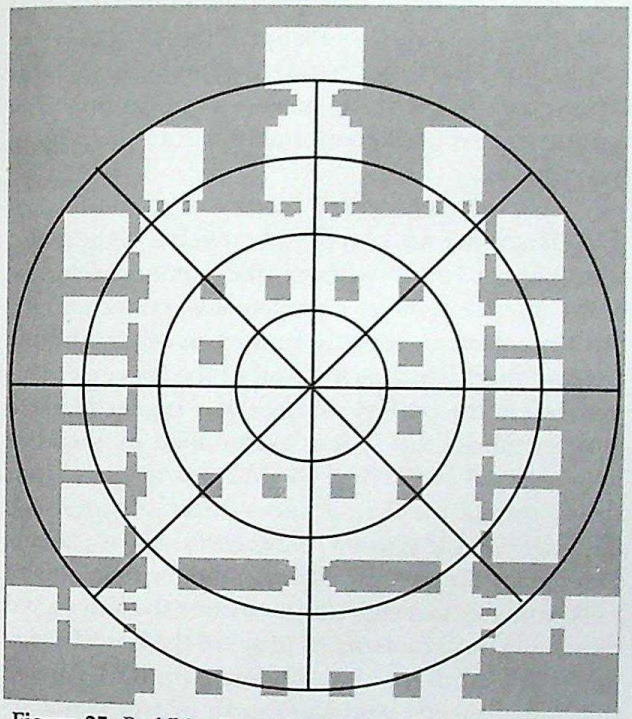


Figure 25: *Buddhist Cave Monastery #2,* circular *Manduka Mandala* centered on the hall and including the ten cells

Jupiter (*Brihaspati* or *Guru*). Five, referring to the row of cells either D^1 or D^2 and the five entrance doors to the west, denotes magical properties, mental activity, intelligence, and the natural elements. This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is exemplified in: the five "M's" (*Panchamakara*) of the *vamanachara Tantra;* the five *skandhas;* the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata,* Tib.: *De-bZhin-gShegs-pa*); and the Five Protectresses (Indic: *pancha-raksha,* Tib.: *bSrung-ma lNga*). It is associated astronomically with the planet Mercury (*Budha*). Ten referring to the combined cells (D^1 & D^2), denotes perfection or completeness, success, and cosmic wisdom, as well as *karma*. It further represents unity emerging from multiplicity. It is exemplified in: the Ten Powers of *Buddha* (Indic: *dashabhala;* Tib.: *sTobs-bCu*); the Ten Directions (Tib.: *Phyogs-bCu*); the Ten World Gods; the ten stages in the life of a *Bodhisattva;*

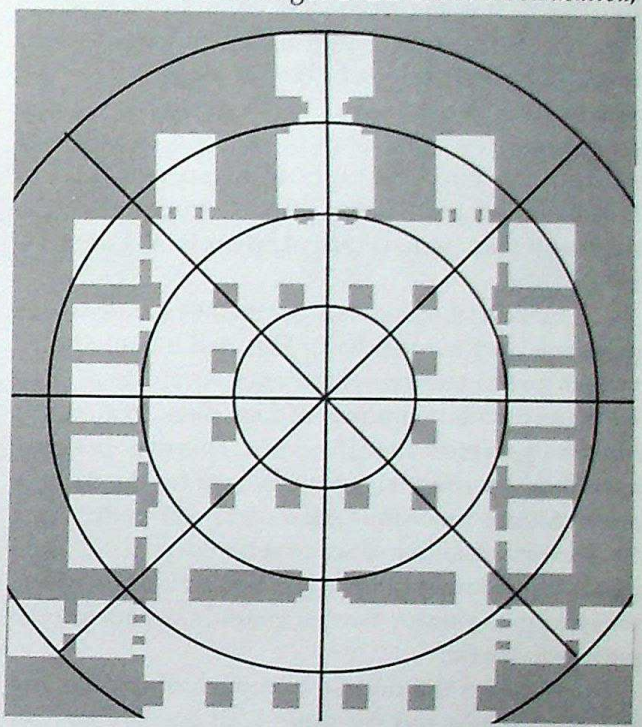


Figure 26: *Buddhist Cave Monastery #2,* circular *Manduka Mandala* centered on the hall and including the sanctuary

and ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*). Additionally, it represents by the *Manipuraka Chakra*. Finally, twelve, referring to the twelve piers of the central hall, denote sacrifice and is related to immortality. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ladh Khan

Aihole, India, 450 CE

(HS, MB)

The *Ladh Khan*, an early Hindu temple, was constructed after the resurgence of the *Brahmanic* (Hindu) tradition. It exemplifies the concern with the square *mandala*. Strictly based upon the square, it stands as an exemplar for later designs. The form of this temple has its precedences not in temples but in the assembly or council halls of the region as has been noted by numerous scholars.[14] Nonetheless the square, the cross-axial plan is obviously based upon a *mandala*. The basic plan of the *Ladh Khan* finds numerous architectural progeny in its axiality in both Buddhist and particularly Hindu structures of the same and later periods (See: **Appendix A, Plates 94-96**).

En plan, it consists of an open vestibule which gives way to the main hall. This hall initially holds sixteen piers: twelve which enclose an inner area which in turn is composed of four piers. Within this inner area rests an altar-like form. This may possibly have been the original sanctuary area for the temple. Around these inner four pillars and within the outer twelve is an aisle-like space which may be considered as an ambulatory or *pradakshinapatha*. Likewise, encircling the outer twelve piers is an additional *pradakshinapatha*.

Between the middle two piers of the western *pradakshinapatha* and the outer wall appears another rather curious shrine (See: **[A] Figure 27**). This is in the form of an enclosure, the walls of which are considerably thinner than the other walls of the temple and is rectangular in form, rather than square. The shrine appears to be a later addition and does not conform to the careful design of the whole, even though it does present a cave-like *garbha-griha*.

The eastern vestibule/porch which is supported by twelve pillars. This gives way to the entrance which is flanked by two fenestrations. Piercing the north and south outer wall are three windows each. However, the western wall is not pierced with any openings, whatsoever. Finally, it is noteworthy that the four ranks of three piers each of the vestibule are in line with the four ranks of fours piers each of the inner space, creating four ranks of seven.

The square central block, the main area of the *Ladh Khan* would appear to represent a *mandala*. There are two possible applications: one of sixty-four *pada*--a *Manduka Mandala*--or one of eighty-one *pada*--a *Paramashayika Mandala* (See: **Figure 27**). The *Manduka Mandala* it appears applicable, presents a problem that would seem to negate its use--i.e., the inner four piers, as well as several of the outer twelve piers fall upon the delineating lines. This is a condition that would have been avoided in practice. The *Paramashayika Mandala*, on the other hand, does not commit this design *faux pas* with its cosmic implications. The various elements fit comfortably within the *pada* of this *mandala*.

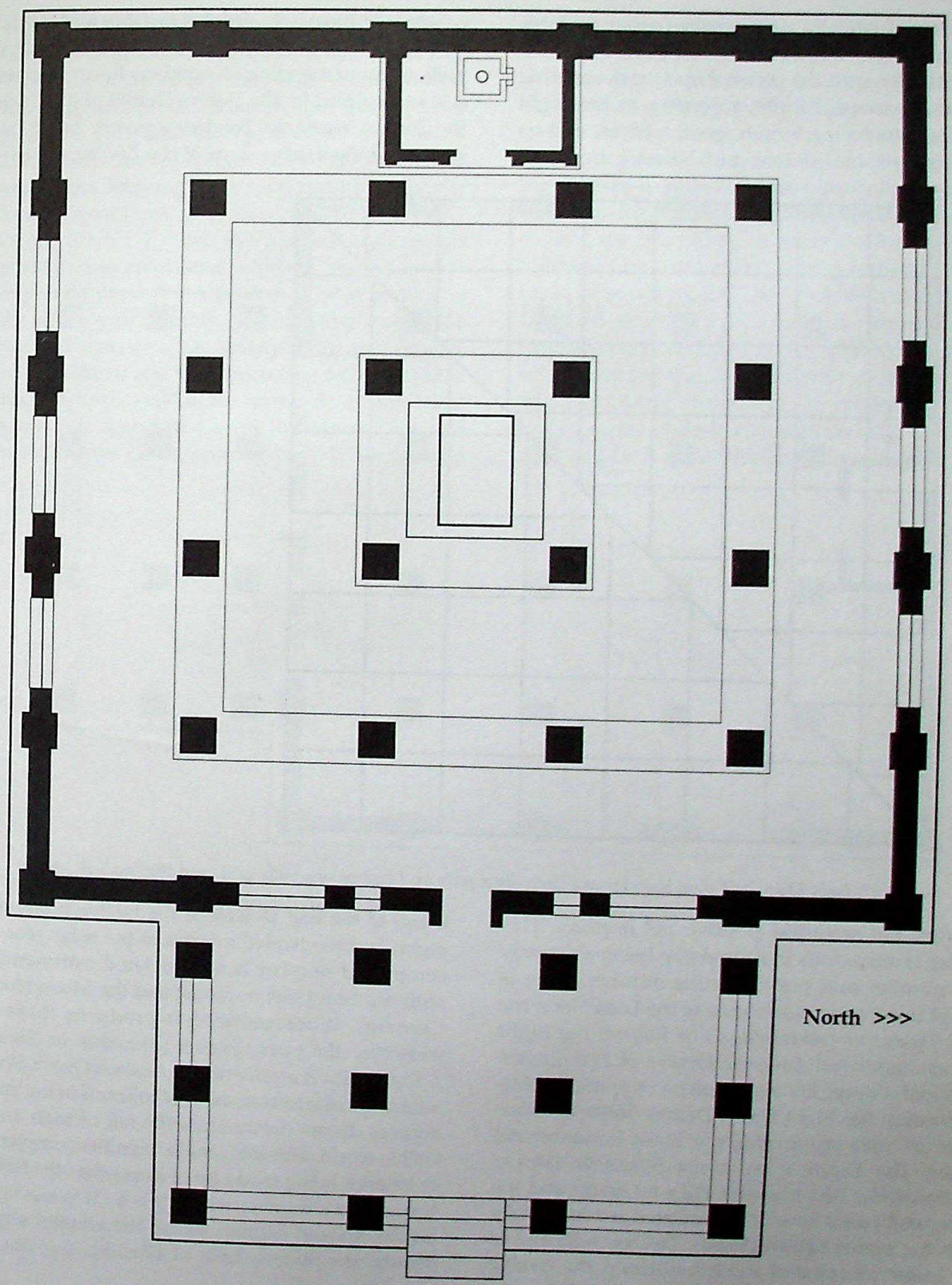
Six numbers appear worthy of numerological consideration: four, seven, eight, twelve, sixteen and twenty-eight. Four, referring to the four inner columns of the interior, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*); the Four Seasons; and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Seven, referring to the four aligned ranks of the interior and exterior piers, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 18 -- *Ladh Khan*

(AG)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(seven sacred islands), *sapta-arania* (seven deserts), and the *sapta-samudra* (seven holy seas). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Eight, referring to the eight windows, denotes perfection, good fortune, and on the divine plane: justice and balance between

columns of the porch, denotes sacrifice and is related to immortality. This numeral is a cosmic number as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years; the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve

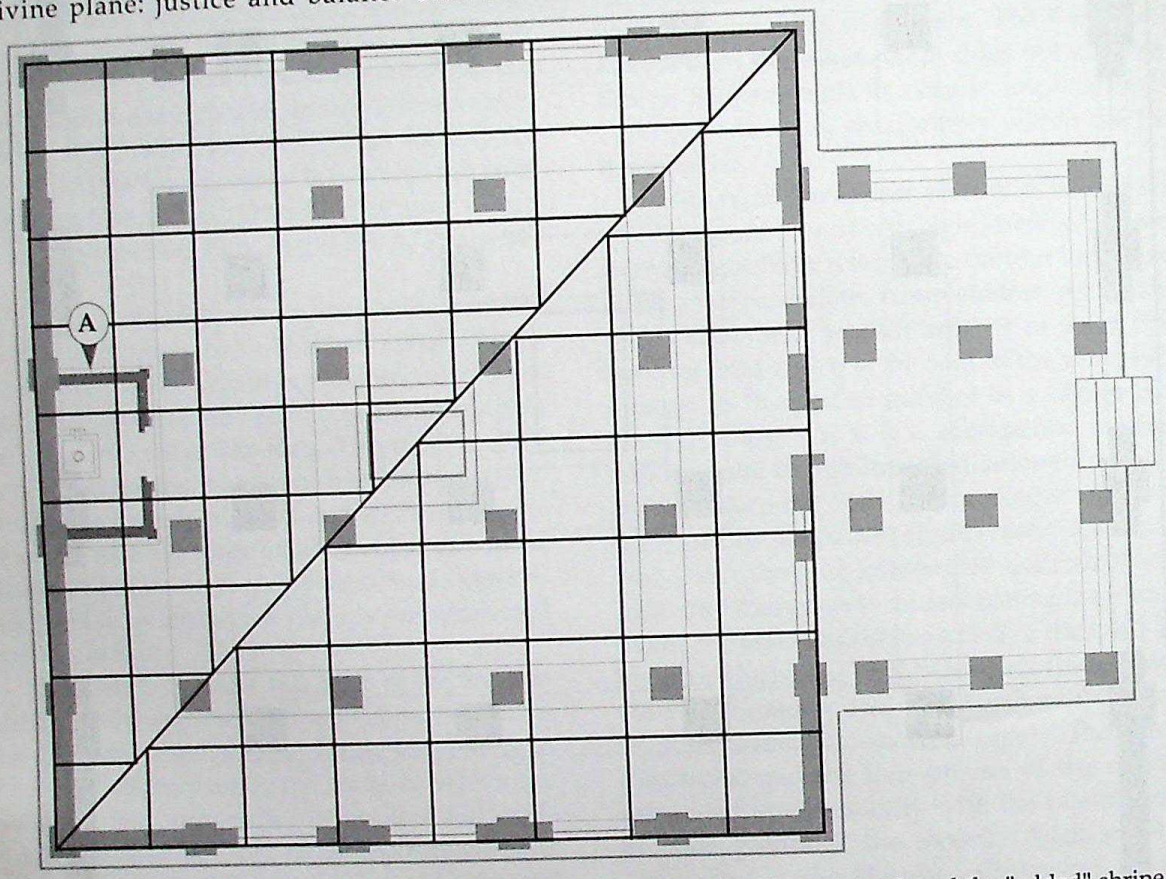


Figure 27: *Ladh Khan*, half plan indicating a sixty-four *pada* and eighty-one *pada* grid, and the "added" shrine

attraction and repulsion, positive and negative. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature; the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Twelve, referring to the outer columns of the interior and the twelve

hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*) (3). Additionally, it represents the *Anahata Chakra*. Sixteen, referring to the total number of columns in the interior, denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness or balance being made up of opposites--the Sun and Venus. It is a number whose $\sqrt{}$ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

karshini; and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*. Twenty-eight, referring to the total number of interior and exterior columns, is an auspicious number (1 + 2 + 3 + 4 + 5 + 6 + 7 = 28), this numeral represents a number that is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*, *kamasugati-bhumi* and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*).

Not only is the fact that the *Ladh Khan* based upon a square, a significant feature as it falls within the parameters of preferred Hindu plans, but also the east-west alignment of the four ranks of seven columns (interior plus exterior) is of no mean importance. Certain numbers possess moon-centered meaning--e.g., the reduction of sixteen to seven refers to *Ketu*, the two of twelve refers to *Chandra*--and are reinforced by the numeral twenty-eight and the four ranks of seven pillars. The symbolism of the square, the grid-related main space, the numerological implications, and the ranks of internal support columns imbue the *Ladh Khan* with undeniable cosmic and theological symbolism. Its apparent simplicity and economy of design has elevated it to the status of an exemplar for later designs throughout the region.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Durga Temple

Aihole, India, 500 CE

(HS, MB)

The apsidal plan of the *Durga Temple* is not without precedent. As a Hindu temple, it is, however, more closely allied to the *chaitya* halls of the Buddhist period[15] than the square *mandala* plan of earlier, contemporary or later *Vedic*/Hindu temple forms.[16] It appears to embody the predominant influence that Buddhism had attained until the resurgence and re-assertion of the Hindu faith in India. Further, it exemplifies the growth of the *Shakti* sect that was to gain a degree of importance within Hinduism.

The *Durga Temple* consists of a colonnaded porch of modest dimensions with four supporting columns. The external wall of the temple, proper, partially supports a roofed area with twenty-four piers. This outer wall is also the outer limit of one of two *pradakshinapathas*. It encircles the "*mandapa*" as well as the *garbha-griha*. The *mandapa, en plan*, resembles a structure within a structure. It is composed of an outer wall with six windows: two on each aisle and two in the apse (*pradakshinapatha*). This outer wall encloses a colonnaded aisle space. Here, again one confronts a second *pradakshinapatha* made up of the aisle and an ambulatory encircling the *garbha-griha*. The aisles are separated from the central space by four piers to the north and four to the south, eight in total. The sanctuary, the *garbha-griha* is of an unusual shape, apsidal in form, mirroring the two ambulatories which enclose it. Further, the visual isolation of the image within the enclosing walls establishes a cave-like atmosphere. The whole is seated upon a raised platform to which one gains entry via either one of a double stairway at the east end (See: **Figure 28**).

In considering the plan of the *Durga Temple* and applying it to a *mandala*, presents some problems. If a square *mandala* is sought, then would appear to be a *Manduka Mandala*. This *mandala* encompasses the width of the whole, and the *Brahmásthana* encloses the central sacred area (See: **Figure 28**). It is to be noted that if the dimension of this *mandala* is extended, a full-width eastward, nearly the complete structure would be enclosed (See broken line: **Figure 28**). Secondly, if the inner cella is considered, and separate from the enclosing wall and outer *pradakshinapatha* (See: **Figure 29**) a *mandala* of eighty-one *pada* appears to be more applicable. Similarly, if the dimension of this *mandala* is extended, a full-width eastward, the whole inner structure would be enclosed and to the eastern extremity of the outer structure (See broken line: **Figure 29**).

Finally, a third *mandala* solution is possible. If the apse end, the west end, is to be considered with its semicircular form, then it fits, in its entirety,

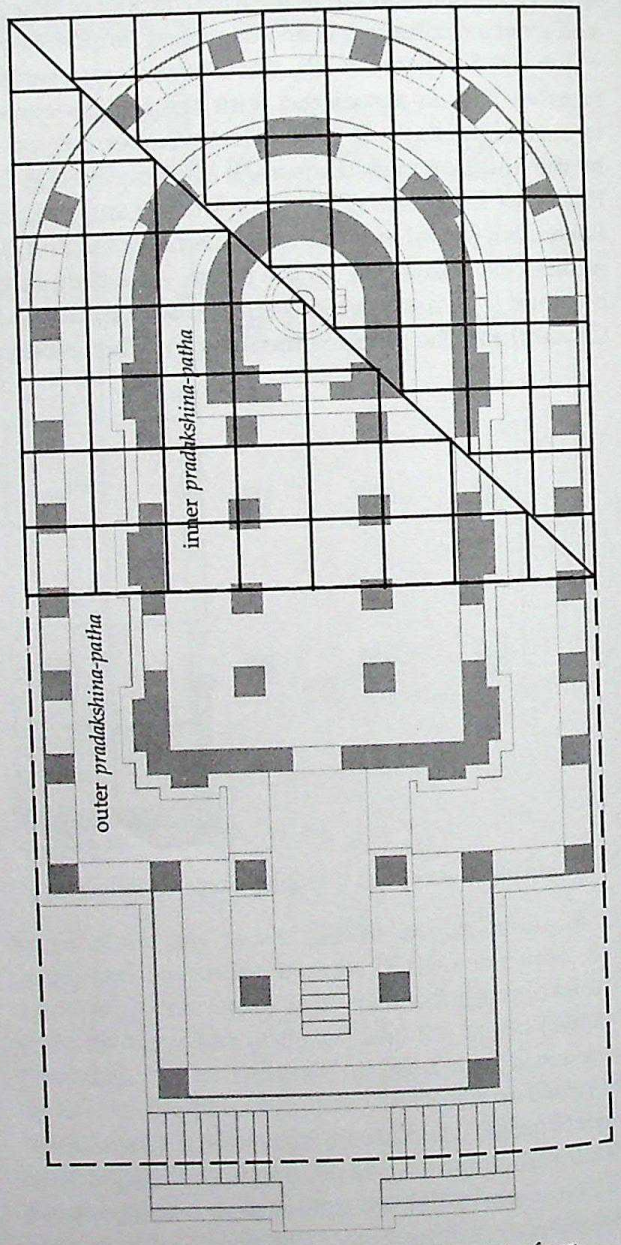


Figure 28: *Durga Temple*, indicating sixty-four and eighty-one *pada* grid

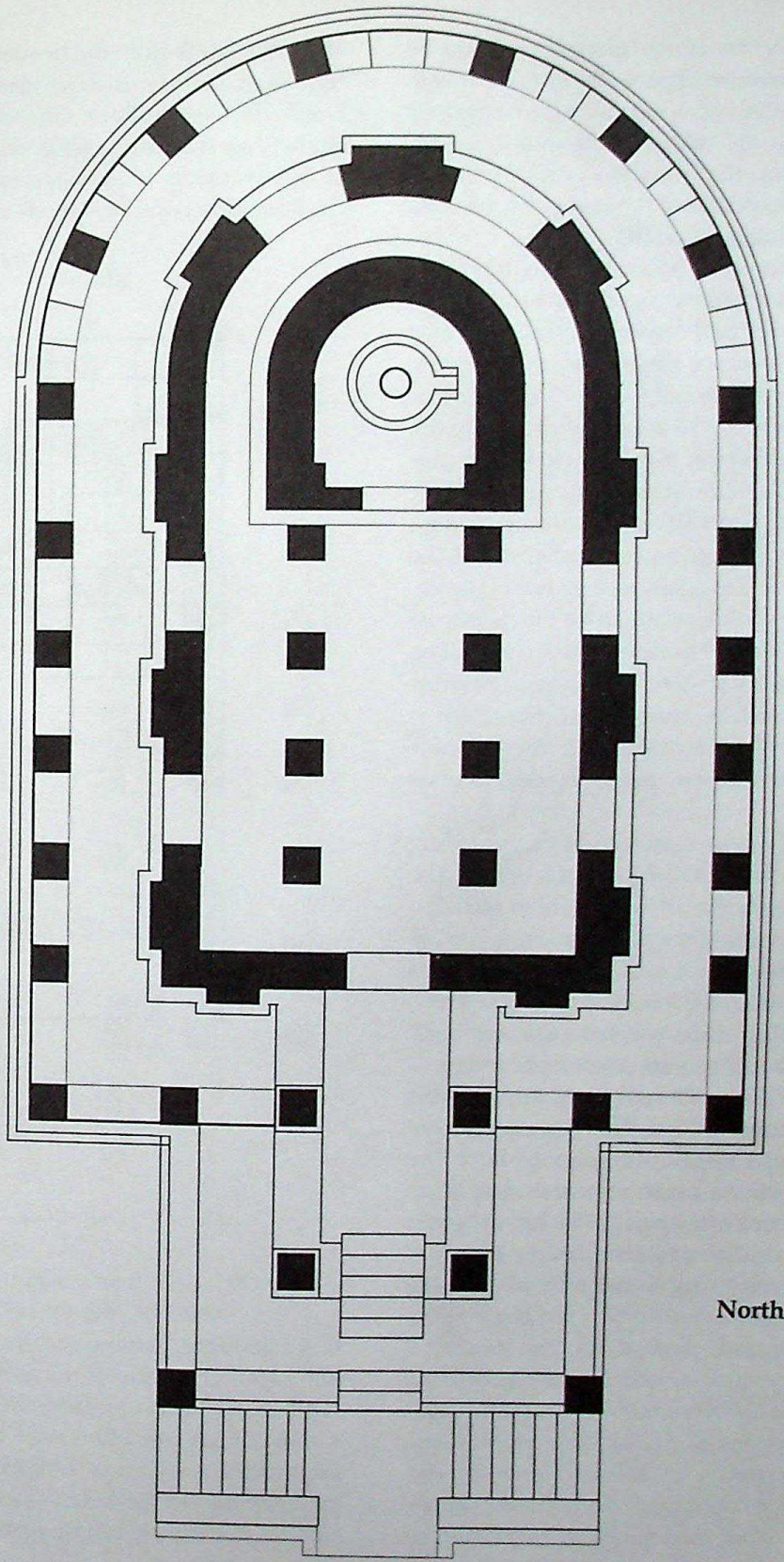
comfortably within a circular *Manduka Mandala* (See: **Figure 30**). If the diameter of this *mandala* is extended again eastward, nearly the complete structure--minus

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 19 -- *Durga Temple*

(AG)



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the easternmost portion of the platform--would be enclosed (See broken line: **Figure 30**). Further, it is to be noted that the center of this extended (second) circle rests on the center of the door leading into the main, colonnaded structure (**C**)[17] and the outer perimeter encircles the eastern corners of the main structure (**A**) as well as the vestibule/porch (**B**).

It would, therefore, appear that one has three options to consider regarding the *mandala* type employed in the design and construction of the *Durga Temple*--i.e., a sixty-four or eighty-one *pada* square *mandala* or a circular *Manduka Mandala*.[18] It would, as a matter of choice, seem efficacious to eliminate the eighty-one *pada mandala* simply because it does not fully address the whole structure, although it possesses interesting possibilities. Of the remaining two--i.e., the sixty-four *pada* square *mandala* and the circular *Manduka Mandala*--again, as a matter of choice, the sixty-four *pada mandala* seems to be the next least applicable. Even though, Hindu tradition, however, favors the square over the circle and further considering the favorable intersections, this form is set aside due to the perception that the circular *Manduka Mandala* posses more potent evidences of its acceptance.

Beyond what has been noted above, regarding the circular *Manduka Mandala*, and accepting the cosmological iconography of the circle versus the square; it would seem that the circular *mandala* is more appropriate for one salient reason. The temple is dedicated to *Durga*, one of the most prominent forms of the *Shakti Devi*. The circle is a feminine symbol.[19] What better form to utilize than a feminine form.

Numerological considerations as apply to the *Durga Temple* are complex indeed. The plan of the *Durga Temple* would appear to refer to both the terrestrial world (circle) and the celestial spheres (square). Five numbers appear to be of some importance--i.e., four, eight, twelve, twenty-four and twenty-eight. Four, referring to the four piers of the porch and the two ranks of four piers of the interior, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon.

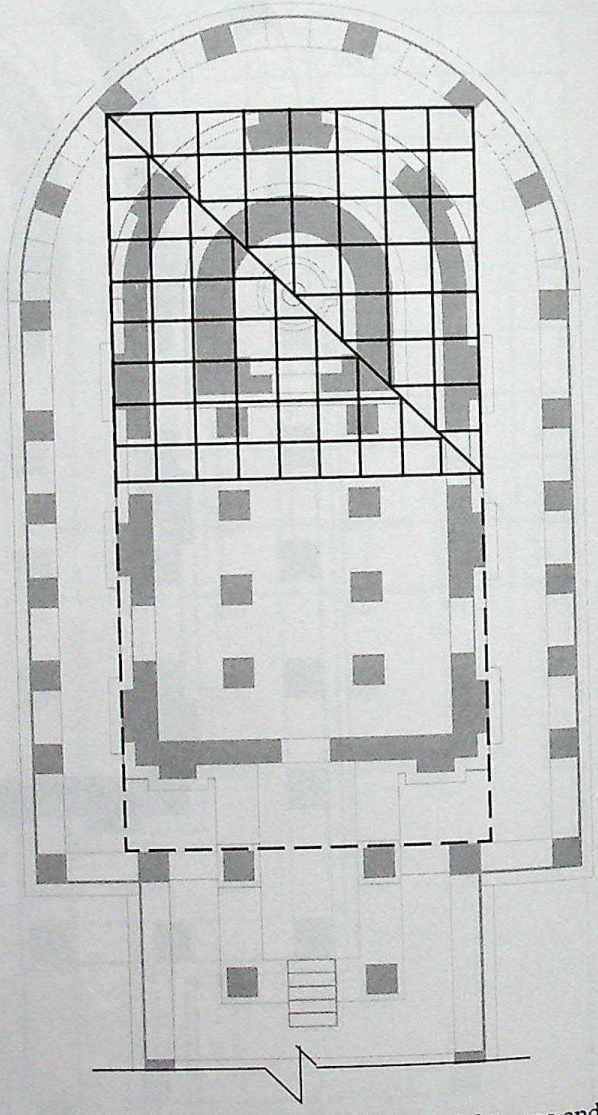


Figure 29: *Durga Temple*, indicating an eighty-one and sixty-four *pada* grid over sanctuary

It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Eight, representing the piers of the *mandapa* as well as the eight piers which make up the porch, denotes perfection, good fortune, and on the divine plane: justice and balance. This

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

integer as even, is representative of motherhood. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Twelve, referring to either the eastern or the western half of the outer supporting pillars, is a cosmic number as well as comprehending all numbers lower than itself. It is exemplified in: the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. The numeral twenty-four, referring to the outer piers, represents totality and the combination of two opposites--i.e., 2, represented by the Moon, and 4, which denotes *Rahu*. This integer represents a cosmic number, and is considered a lucky number. It is exemplified in the total of the double hours of day and night. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces six and, therefore, the planet Venus (*Shukra*). If one considers the twenty-four outer piers plus the four additional piers which makeup the porch, then twenty-eight becomes an important consideration. It is a number that is auspicious, this numeral represents a number that is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*, *kamasugati-bhumi* and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*).

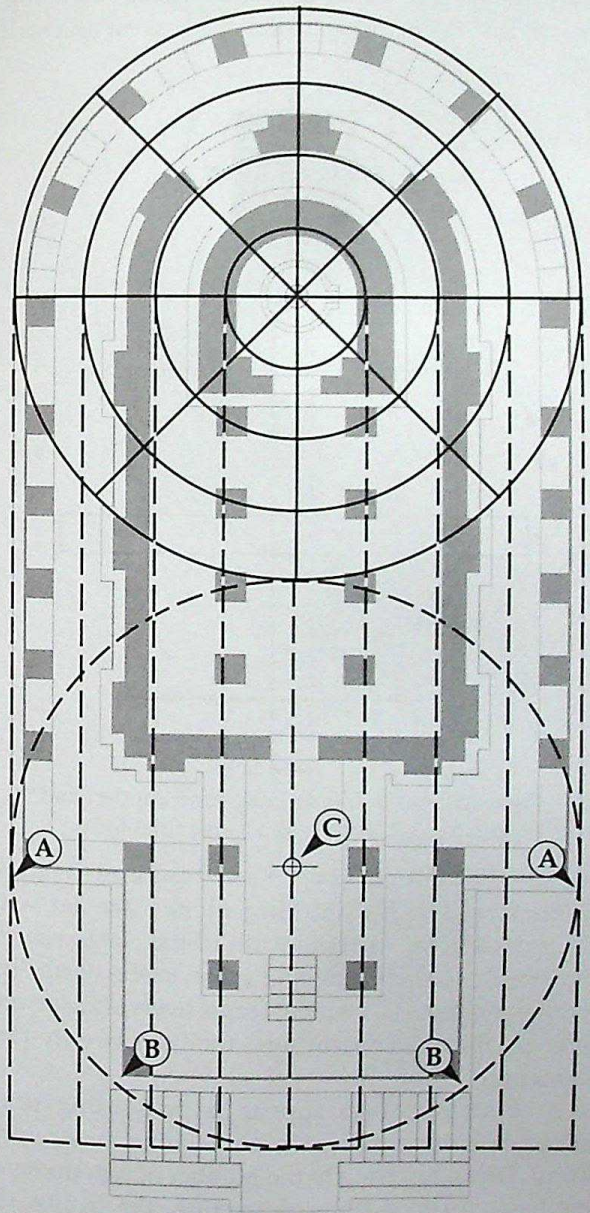


Figure 30: *Durga Temple,* indicating circular *Manduka Mandala*

The feminine circle, plus the constant repetition of the moon related numbers are apt symbols for the *Durga Temple*. *Durga*, one of the most powerful of the feminine deities and a manifestation of *Devi*, She, is worshipped in her various forms throughout India. The temple surely indicates potent influence from the earlier apsidal *chaitya* halls. The apparent application of that Buddhist form to one of the preeminent Hindu goddesses is noteworthy, indeed (See: **Appendix A, Plates 97 & 98**). Finally, the setting apart of the main image from the surroundings in an enclosed *garbha-griha*, unlike the openness of the *Ladh Kahn*, is to be mirrored in the future.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Shiva Temple

Indore, Madhya Pradesh, (c. 775 CE)

(KD)

The *Shiva Temple* at Indore, is most unique in its plan, particularly when considering the early traditional temple architecture of Hindu India. The use of the circle, or in this case the implied circle, is not in itself unusual. Nor is the use of the circle in the raising of a shrine to the Lord *Shiva* isolated.[20] Certainly there are numerous shrines dedicated to this important deity which utilize the square as well (See: **Appendix A, Plates 96 & 99**). The plan indicates not just a design variation, but may indicate a theological variation as well.

The plan of the *Shiva Temple* at Indore appears to exemplify the basic cosmological concept of the Hindu belief system. In early Vedic rites two altar areas were employed. One altar was round representing the terrestrial, the transitory sphere in which everything was in a state of flux and/or change. The second altar was square in shape representing the perfect form, thereby denoting the celestial, the heavenly, The Absolute and a configuration which was immutable and constant. The protocol during sacrifice required the participants to move from one sphere or space to the other--i.e., from the terrestrial square to the celestial circle--as an exemplification of mans' spiritual progress.

The basic element of the *Shiva Temple* is a square with two extensions (*bhadras*) at its east-west and north-south axis (See: **Figure 31**). Within the *bhadra* are set shallow niches. This element is then rotated 30° and again rotated another 30° (to 60°) to obtain the external form of the temple.[21] The *garbha-griha* is square and would have contained the devotional image (doubtlessly a *linga*). There is a small vestibule (*mukhamantapa*) which leads to the eastern portal. A *mandapa* may have been connected to the main shrine or existed as a separate structure, if so it is now no longer discernible.

The application of a sixty-four--*Manduka Mandala*--and eighty-one--*Paramashayika Mandala*--*pada* grid to this most innovative structure offers two possible solutions (See: **Figure 32**). Both designs are applicable, however, the eighty-one appears more efficient in that the *Brahmásthana* falls comfortably within the traditional nine central *pada*, a traditional solution. The sixty-four *pada*, *Manduka Mandala*, is less satisfactory. Further, a circular *Manduka Mandala* can also be applied to the *Shiva Temple* with acceptable results (See: **Figure 33**). However, the application of a circular design to a Hindu temple is less acceptable than that of a square *mandala*.

Nonetheless, The iconography of the whole tends to revolve around astronomical cosmology. Within the *bhadra* niches to the north, west and south

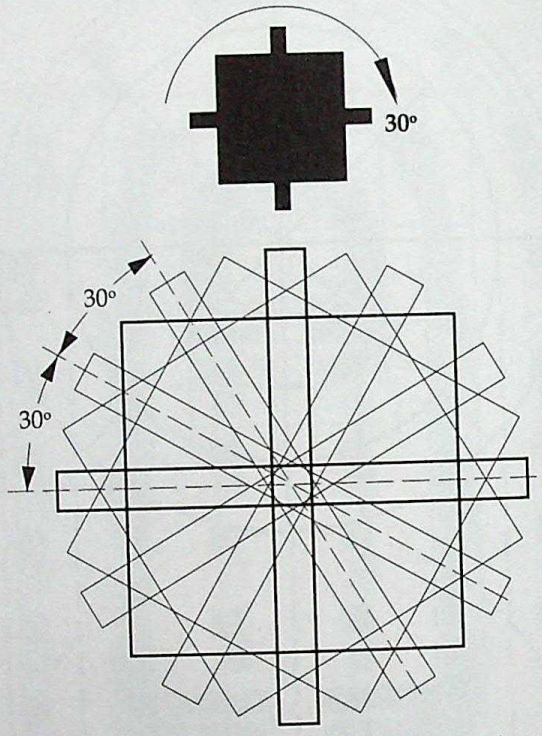


Figure 31: *Shiva Temple*, basic form (upper) and rotated 30° and 60° to acheive final form

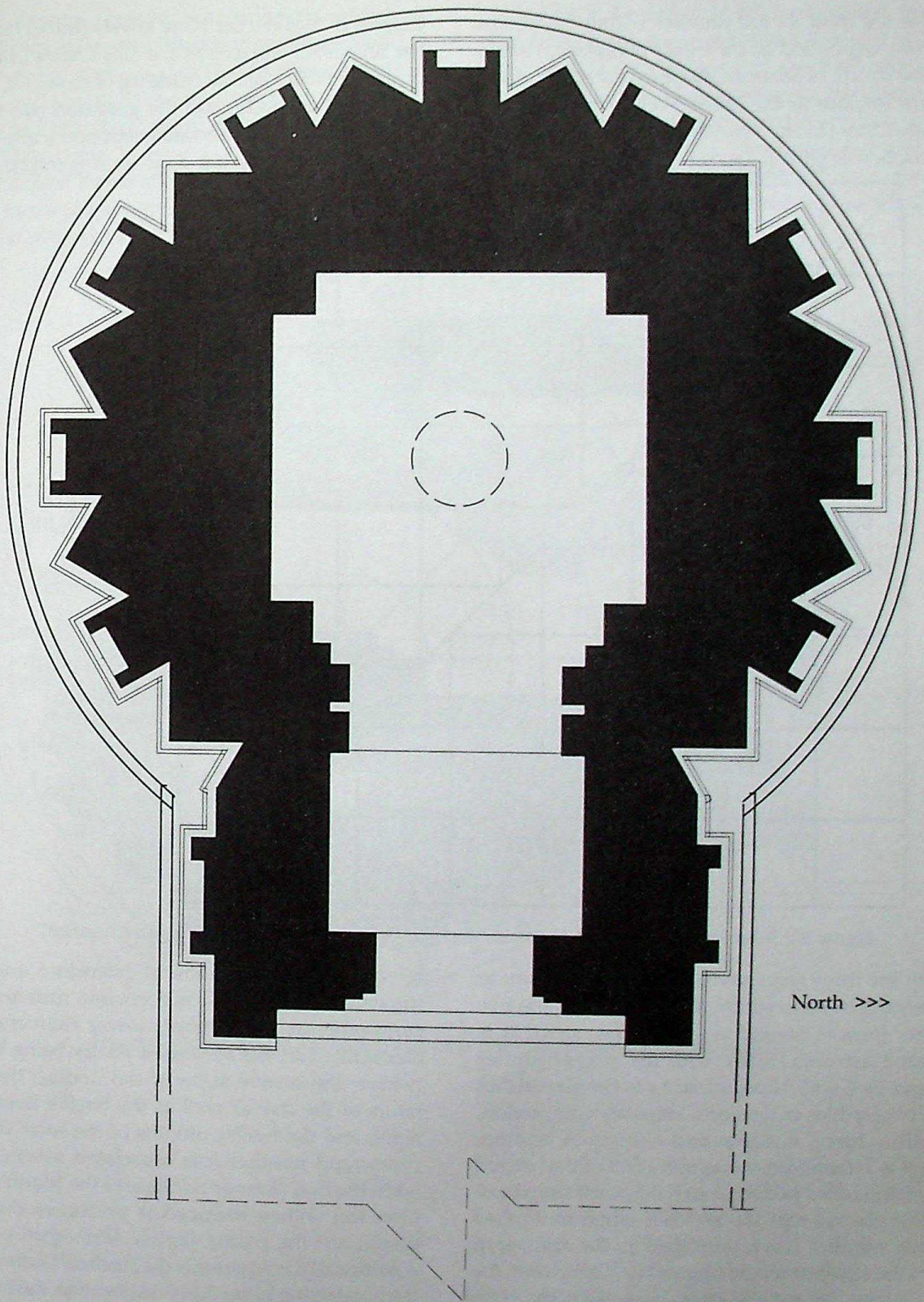
are set the deities: *Uma*, *Karttikeya* and *Ganesha*, respectively.[22] The flanking niches are set with *Dikapalas*. On the external walls of the *mukhamantapa* rest *Ishana*, to the south, and *Indra*, to the north. The rotation of the basic element forms twelve *bhadras* and twelve intermediate corners, totalling twenty-four elements.

Four numbers appear as possessing some numerological significance: three, nine, twelve and thirty. Three, referring to the number of repetitions of the basic form, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 20 -- *Shiva Temple,* Indore



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Nine, referring to the nine niches in the *bhadra*-like extensions, denotes completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*). Twelve, referring to the repetition of extensions and/or the intermediate corners, is a cosmic number which comprehends all numbers lower than itself. It is exemplified in: the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. Finally, thirty, referring to the thirty degrees that the basic form

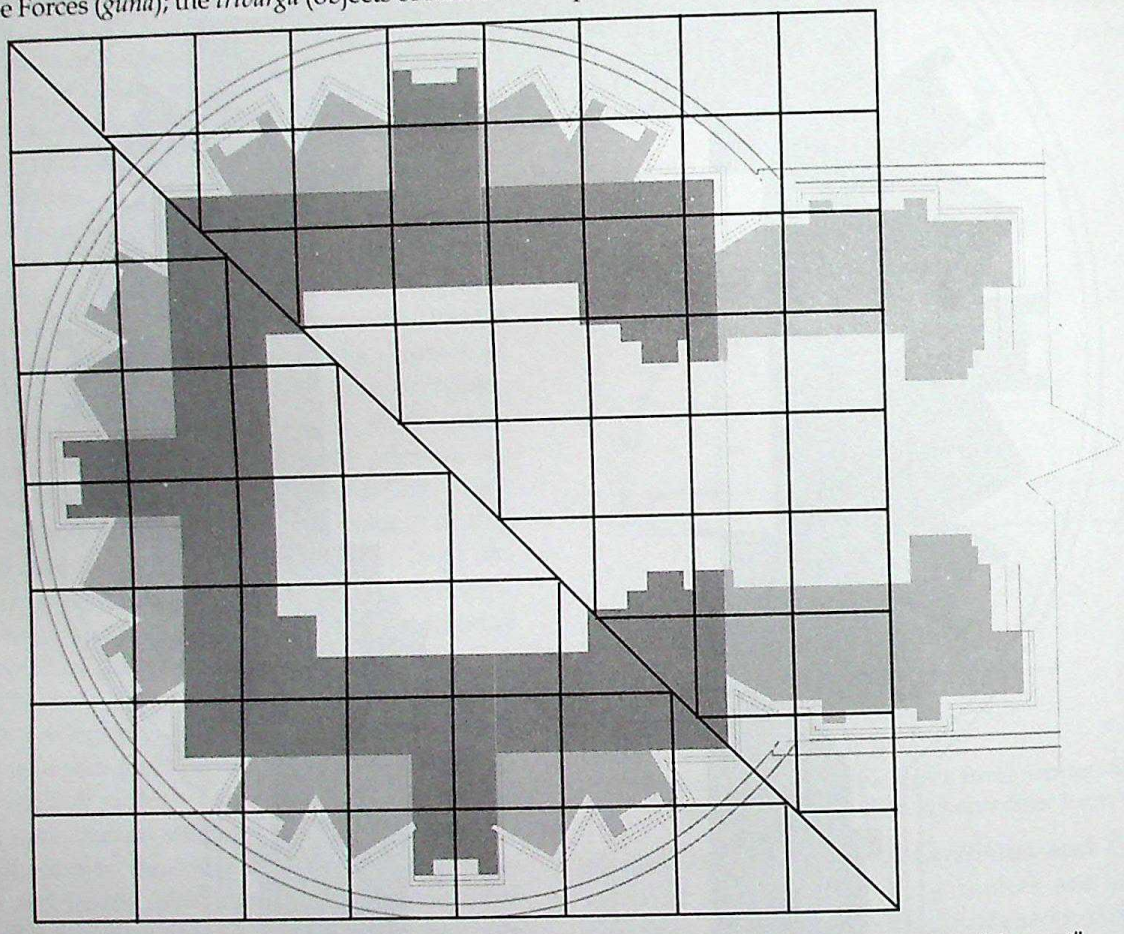


Figure 32: *Shiva Temple*, indicating sixty-four and eighty-one *pada* grid, and the square "element"

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

is rotated, denotes a psychic numeral and is auspicious in its make up. It is exemplified in: the classes of beings in the three spheres--i.e., ten in *Kamaloka*, sixteen in *Rupaloka*, and four in *Arupaloka*; Lord *Krishna* assumed 64 *vidyas* in thirty days, thirty days in a solar month; and 1/12 of a circle.

The *Shiva Temple* at Indore indicates the latitude allowed in temple design in India, particularly in the south. The plan gives the appearance of being based upon a circle, however, as has been stated, the basic element is a square which has been rotated 30° to produce three repetitions of the basically square element. The total plan appears to incorporate both elements of early Vedic worship within a single structure--i.e., the circular transitional altar area where the sacred fire was ignited and the square ultimate altar area where the fire was transported and the important rituals were conducted.

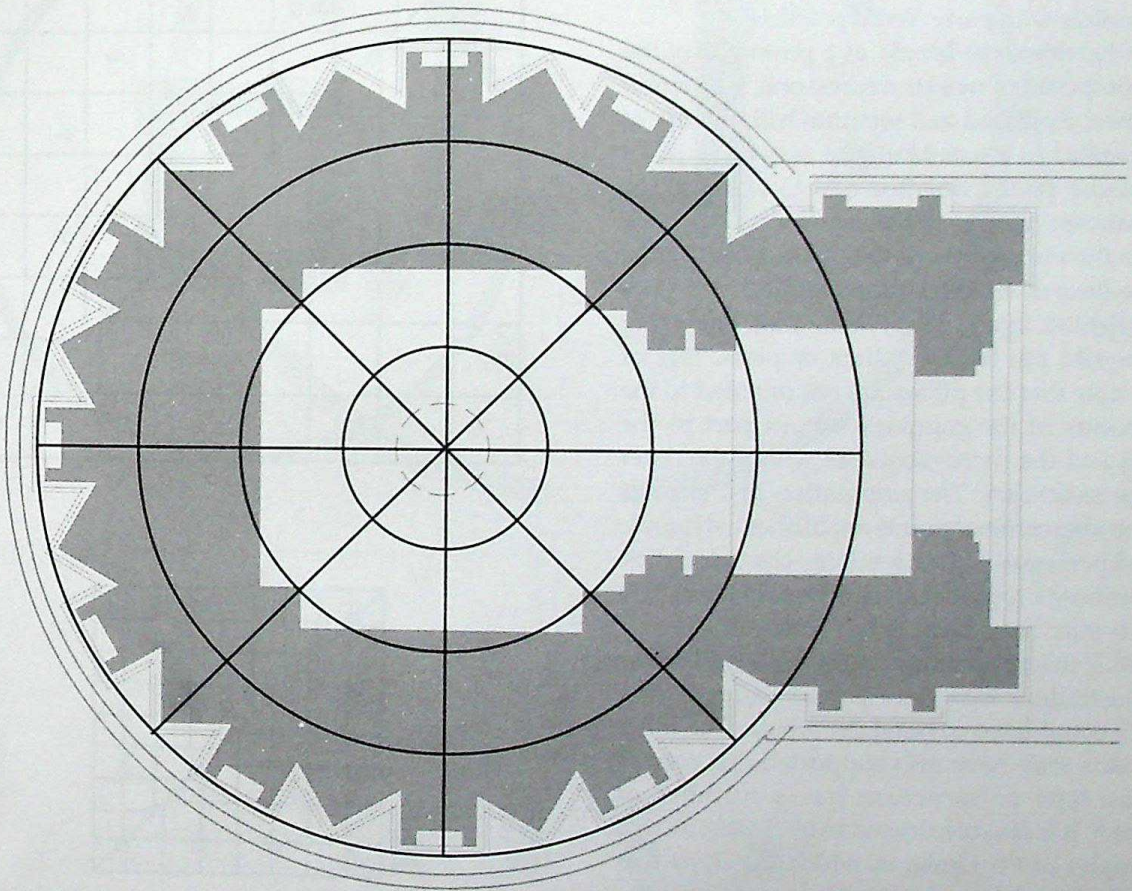


Figure 33: *Shiva Temple,* indicating a circular *Manduka Mandala* over the *garbha-griha*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Subrahmanya Temple

Manjeri, Kerala, c. 10 C. CE

(KV)

The circular outer plan of the *Subrahmanya Temple* is not unique, as has been stated. There are a number of circular temples particularly in Kerala dedicated to *Shaiva* deities. One of the earliest being the *Shiva Temple*, Polpulli, 9 C. CE. However, they appeared to grow out of vogue in that area in preference for the square. Less frequently does one find a temple in which the whole is circular--i.e., the base as well as the *garbha-griha*.[23] As with the previous temple, *Shiva Temple* at Indore, this temple it finds certain parallels with early Vedic practices.

The *Subrahmanya Temple* as a prototype of the period is composed of two structures: one, the *garbha-griha* and two, a pillared and separate hall, the use of which is similar to a *mandapa*. The sanctuary is set upon a circular plinth, oriented east to west. At the east is a staircase leading to the base's topmost level. Centered in this circular base is the *garbha-griha*, square *en plan*, the floor of which is raised and entered via a staircase oriented, again, towards the east. Encircling the *garbha-griha* are twelve pillars or piers. It is of interest to note that the pillars are not oriented to the cardinal points of the compass, due in part to the entrance(s) and the three niches set within the outer wall of the sanctuary. The orientation of the piers towards the intercardinal points establishes a dynamic quality and possesses certain feminine characteristics. Around the base's topmost level is the remnants of a wall which may have been either a balustrade or a higher wall. If this remnant structure was a wall rather than a balustrade, it may have partially supported a roof which could have covered the whole. The inner twelve pillars may have also supported this roof as well. This type of structure has a number of precedents.[24] It is also considered to be closely related to the temples of Sri Lanka in which the *stupa* was entirely enclosed by a protective roof--i.e., the Singhalese *vatadage*. Both the Buddhist practices of Sri Lanka and the Hindu discipline of the south of India had certain levels of compatibility which may give account for this apparent interesting stylistic intermingling.

When applying a *mandala* grid to either the sanctuary ensemble or the frontal hall, either a sixty-four--*Manduka Mandala*--or an eighty-one--*Paramashayika Mandala--pada* grid is applicable (See: **Figure 34**). It would appear that in both cases a *mandala* of eighty-one pada is more applicable as it does not interfere with the *marmas* of either structures. Likewise, the imposition of a circular *Manduka Mandala* also possesses certain viable reasons for its consideration (See: **Figure 35**), particularly as the outer "wall," the encircling columns, the structure of the

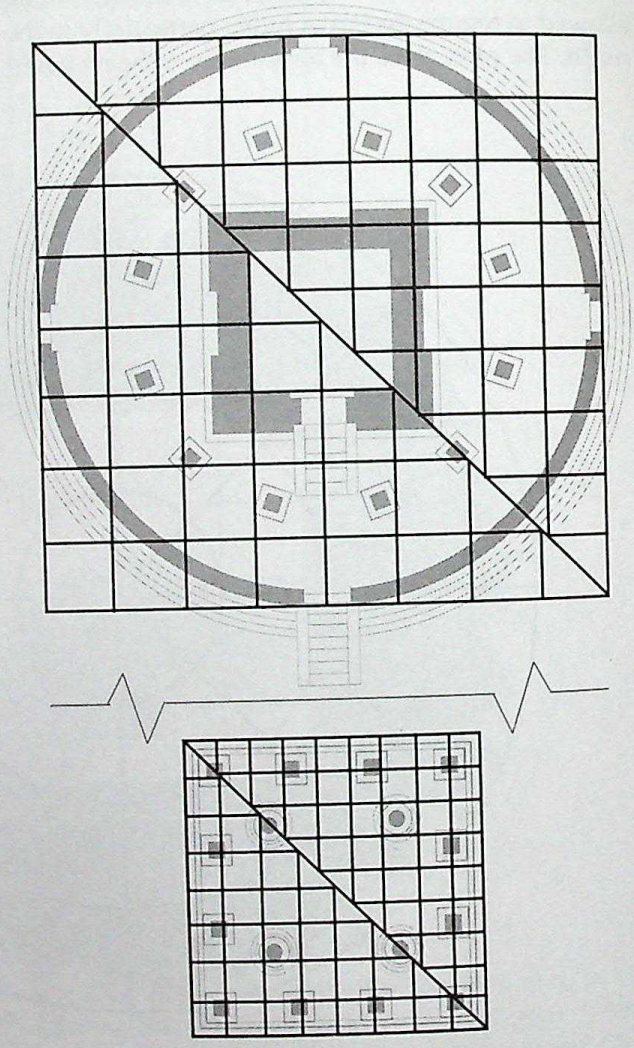


Figure 34: *Subrahmanya Temple,* indicating

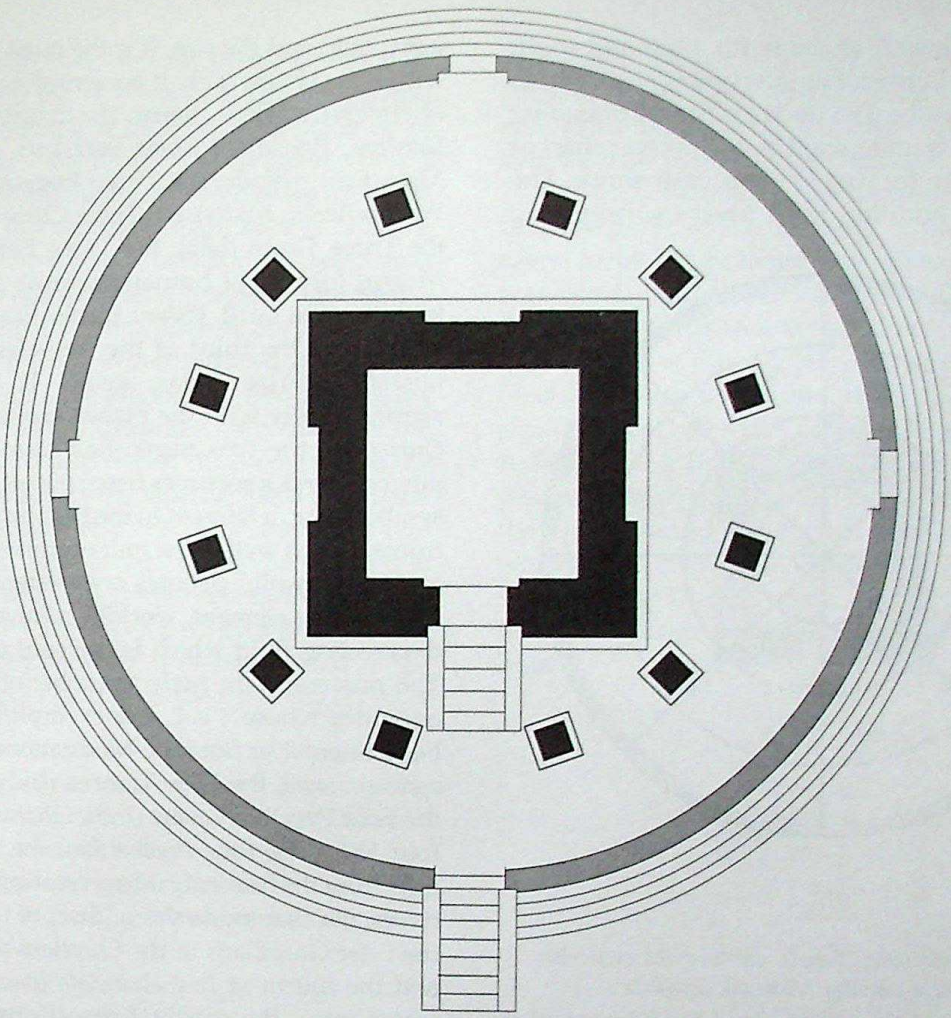
sanctuary and the *garbha-griha* fit nicely within the *mandala's* divisions. However, one must seriously consider the square over the circle as the preferred design grid for the Hindu temple.

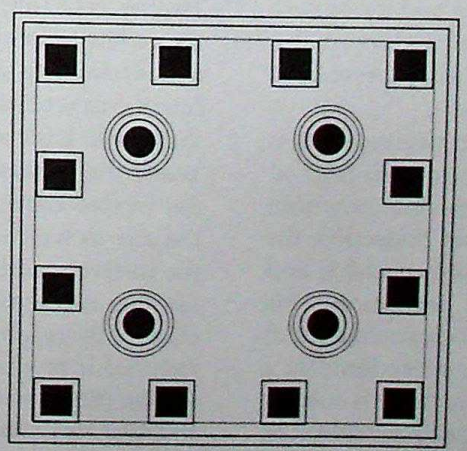
The *Subrahmanya Temple* possesses other potent iconography. The use of the circle indicates the association with the physical world. In addition to the eastern entrance the balustrade/wall possesses

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 21 -- *Subrahmanya Temple*





North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

openings (windows?) at the north, west and south cardinal points. Further, this intervening space serves as a *pradakshinapatha*. The twelve pillars surrounding the *garbha-griha* is underlined by the twelve pillars of the square hall to the east of the circular shrine. The frontal hall, in addition to its twelve surrounding

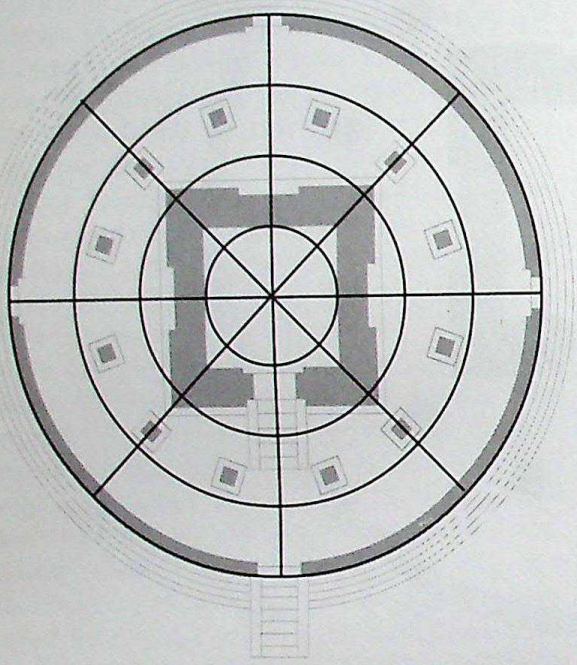


Figure 35: *Subrahmanya Temple, garbha-griha* ensemble indicating circular *Manduka Mandala*

pillars/piers is further supported by four circular columns set within the encircling pillars. All are numbers redolent with meaning. The *garbha-griha*, square *en plan*, refers to the celestial, cosmic world, fixed and Absolute. In addition the sanctuary relates to the sacred cave. Together, the circle and the square combines the cosmic interrelation between the physical and the celestial worlds and is an apt referent to more ancient Vedic practices.

Five numbers--i.e., three, four, twelve, sixteen and twenty-four--are of some numerological significance. Three, referring the three niches within the walls of the *garbha-griha* , connotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). As the first masculine number (odd), the powerful and sometimes fierce planet/deity is an apt symbol. Four, a referent to the four inner pillars of the frontal hall as well as the four entrances into the outer sanctuary "wall," denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Twelve, referring to the number of pillars encircling the *garbha-griha* and the frontal hall, denotes sacrifice and is related to immortality. This numeral is a cosmic number as well as comprehending all numbers lower than itself. It is exemplified in: the Cycle of the Twelve Years; the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. Sixteen, referring to the pillars and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

piers of the frontal hall, denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness, or balance being made up of opposites--the Sun and Venus. It is a number whose √ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra;* the *Shodasha-karshini;* and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*. Finally, twenty-four, referring to the surrounding columns of the sanctuary and the frontal hall, denotes totality and the combination of two opposites--i.e., 2, represented by the Moon, and 4, which denotes *Rahu*. This integer represents a cosmic number, being 12 + 12 = 24 or 1 x 2 x 3 x 4 = 24, and is considered a lucky number. It is exemplified in the total of the double hours of day and night. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces six and, therefore, the planet Venus (*Shukra*).

The *Subrahmanya Temple* represents but one small segment of the diversity of plan that can be found in the Hindu temples of India. It indicates the trans-fertilization between the Hindu and the Buddhists faith as well as the older Vedic ways. One may also view this temple plan as presaging later forms in which a *mandapa*, here separated, is later joined or attached to the *garbha-griha* (See: **Appendix A, Plates 100 & 102**). Finally, if this plan, as indicated, possessed an enclosing wall with a covered roof, then the square, sacred *garbha-griha* with its sacred image would have been visually isolated, not unlike the shrine of the *Durga Temple*, and which appears to become a design parameter for the temples of the future.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Kilatali Shiva Temple,

Thiruvanchikula, Kerala, c. 10 C. CE

(KV)

The *Kilatali Shiva Temple*, as the *Subrahmanya Temple*, Manjeri, is to be found in the Kerala. The square plan with an extended vestibule/porch is found as early as the Sixth and through the Fifteenth Centuries CE. As a representation of the celestial world it takes numerical precedence over the earlier circular plan.

En plan, the *Kilatali Shiva Temple* represents a prototype of considerable importance. The whole is oriented to the east. It is composed of a square *garbha-griha* which is raised, a lower level passageway (*pradakshinapatha*) and an enclosing wall with fenestrations in the north, south and west outer walls. The inner placement of the *garbha-griha* creates a sacred cave-like atmosphere, similar to the *gu* of the Burman, indeed the early temples of Pagan are closely related in form to this temple (See: **Plates 52, 53 & 56**). Set in the outer face of the enclosing wall are twelve niches, four each on the north, west and south walls flanking the windows.

Appended to the central shrine, is an un-colonnaded vestibule-hall, smaller in dimension than the former. The vestibule-hall (*mandapa*) which possesses a ceremonial entrance to the east as well as an entrance to the north and another to the south. These three entrances are the only openings to the outside. There are no windows in this hall making the interior relatively dark and creating an additional light barrier for the *garbha-griha*. The total is placed upon a raised plinth. The simple plan, without extended *rathas*,[25] gives emphasis to the niches as well as the windows. The latter windows and the portal are oriented to the cardinal points of the compass. The twelve niches, due to their singularity in the design places emphasis upon that number.

The *Kilatali Shiva Temple* appears to be based upon either a sixty-four or eighty-one *pada mandala* (See: **Figure 36**). The square temple was preferred in this area. It stands in sharp contrast to the *Shiva Temple*, Indore and the *Subrahmanya Temple*, Manjeri, with their apparent emphasis upon the circle. The imposition of a circular *Manduka Mandala* upon the sanctuary offers a far less satisfactory solution here than it does in other square plan temples (See: **Figure 37**).

There are three numbers which appear significant: three, four and twelve. Three, referring to the openings in the sanctuary as well as to those of the vestibule hall, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most

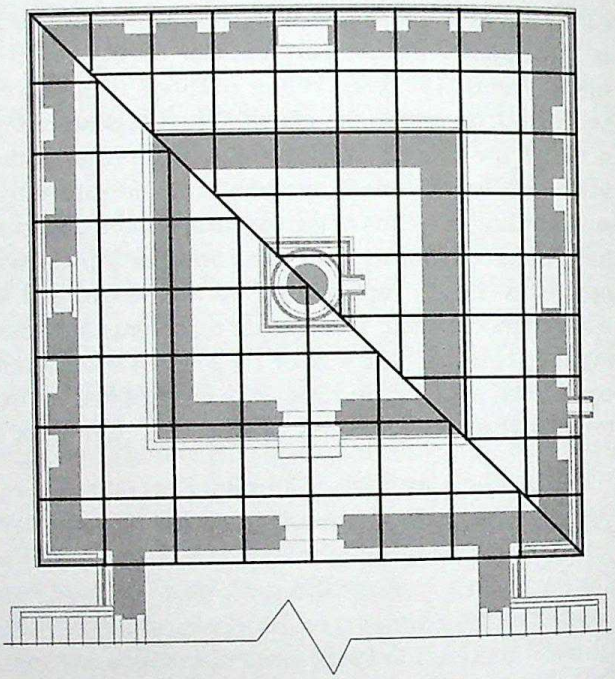


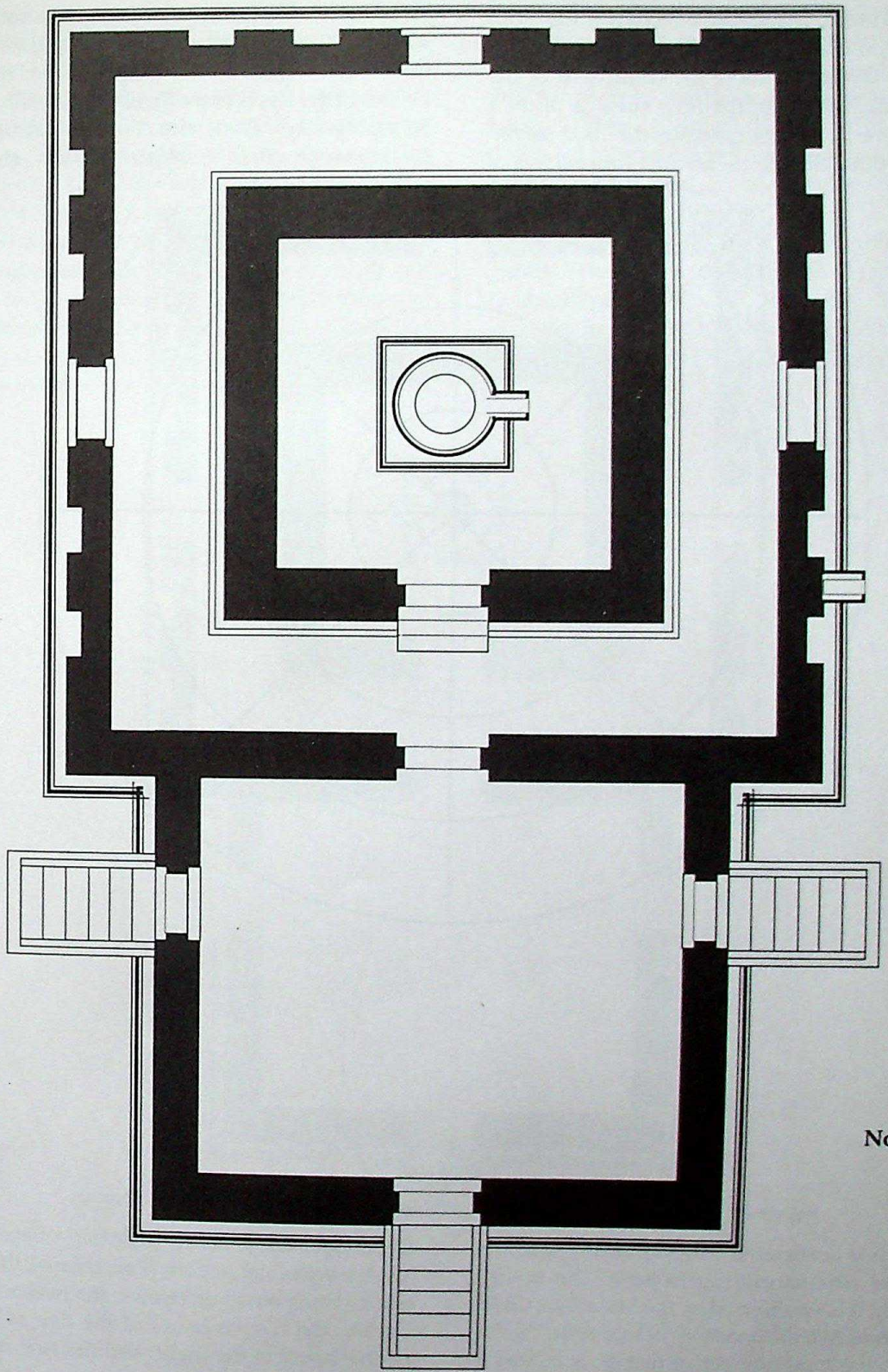
Figure 36: *Kilatali Shiva Temple, garbha-griha* indicating sixty-four and eighty-one *pada* grid

sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva;* the trinity of *Sarasvati, Lakshmi, Parvati; trishula;* the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit) being: *dharma, artha* and *kama;* the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar;* and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Four, referring to the four niches on the three faces (twelve in all), connotes completeness, perfection, the practical element and order. It is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 22 -- *Kilatali Shiva Temple*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the Four Guardians of the Quarters (Indic: *Lokapala*); the four streams of milk from the heavenly udder creating the four sacred rivers: the cardinal directions; and the four phases of immortality. This numeral is: a cosmic number ($12 \times 30 = 360^0$) as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve

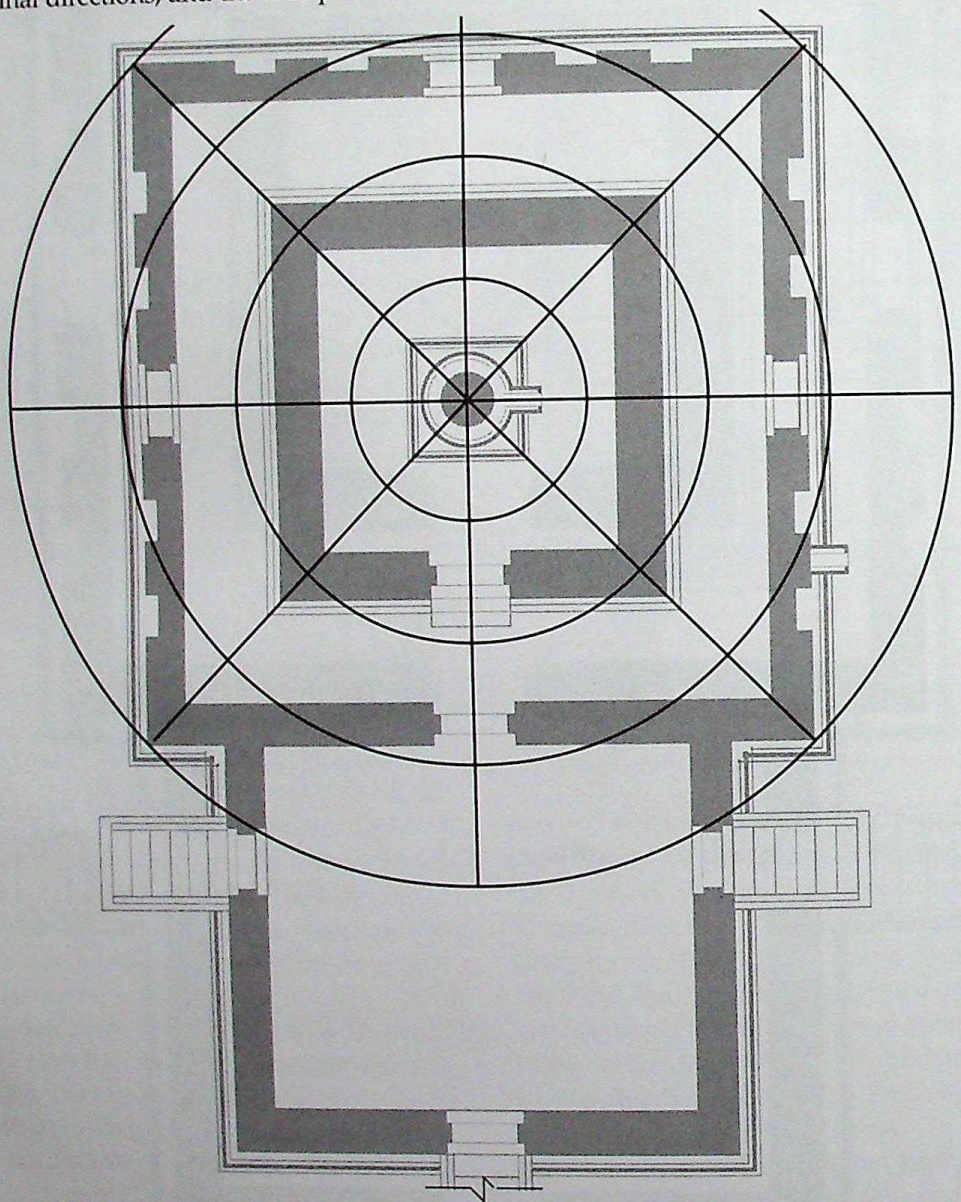


Figure 37: *Kilatali Shiva Temple, garbha-griha* indicating a circular *Manduka Mandala*

the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Twelve, referring to the total number of niches, is related to Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra.*

The strict square design of this temple's *garbha-griha* mirrors the *Ladh Khan* and is reflected in the later *Brihadeshvara Temple* of Tanjore, among others. Further, the *Kilatali Shiva Temple* extends and solidifies a tradition indicated in the *Durga Temple* of *Aihole* and reinforced in the *Subrahmanya Temple* of Manjeri--i.e., the visual isolation of the central image. In this temple, the *garbha-griha* is a fully developed form surrounded by a *pradakshinapatha* and an enclosing fenestrated form. The extension of a vestibule porch--i.e., a *mandapa*--appears as a mere appendage to the main block. Important as this form is, it is secondary in size and function to the main square with its enclosed form. The isolation of the main image within a darkened interior underlines the womb-quality of the garbha-griha and theologically underlines a cosmological significance.

The basic form(s) of the *Kilatali Shiva Temple* presages numerous parallels with the structures of Sri Lanka, Pagan and Thailand--e.g., the *Tivanka Pilimage* of Polonnaruwa, the *Nan-Hpaya* or *Naga-Yon* of Pagan, as well as the *Chedi Chet Yod* of Chiang Mai.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Vatadage

Polonnaruwa, Sri Lanka, 11-12 C. CE

(JA)

The *Vatadage* temple at Polonnaruwa, a magnificent relic house, possesses a number of archetypes, evidences of which date back for centuries.[26] One of a number of spectacular Buddhist structures of this medieval capital, indicates the Buddhist preference for the circular *mandala* plan.

The relic house (*vatadage*), *en plan*, it consists of a circular plinth or platform with a low balustrade surrounding the whole. Set in from this balustrade are two ranks of columns, thirty-two in each rank (**A & B**),[27] the total amounting to sixty-four. This double rank encloses a second plinth-like, multi-moulded base, the topmost level of which is reached by four staircases oriented to the cardinal points of the compass. Set around this top level is another balustrade inter-set with thirty-two columns, separated, eight each, by the four narrow staircases. Within the colonnaded balustrade is a high wall with entrances commensurate with the staircases leading to the four entrances of the sanctuary. Within this wall are a circle of twenty supporting columns. Finally, a circle of sixteen columns between which are low plinth-like forms, probably serving as altar/bases for various images. On the four, larger plinths facing the portals, the cardinal points of the compass, now rest images of the Lord *Buddha*. These sixteen columns with their intervening sixteen altar/bases surround a raised base upon which the sanctuary-*stupa* is to be found. The outer rank of twenty and inner rank of sixteen columns of the sanctuary area and the high inner wall would appear to have been part of the support structure for a roof. It is also thought, with some precedents that the outer three ranks of thirty-two columns each were also support members for an extended roof structure, a tradition that has numerous precedents both in Sri Lanka and India.[28]

To the front and connected to the base plinth is a vestibule-hall or porch with an extension. It is consists of ten columns--two ranks of four columns each and a rank of two columns--doubtlessly supporting a roof covering. This plan--i.e., sanctuary[29] with an adjacent or attached vestibule-hall--is utilized by both the Hindu and Buddhist traditions.

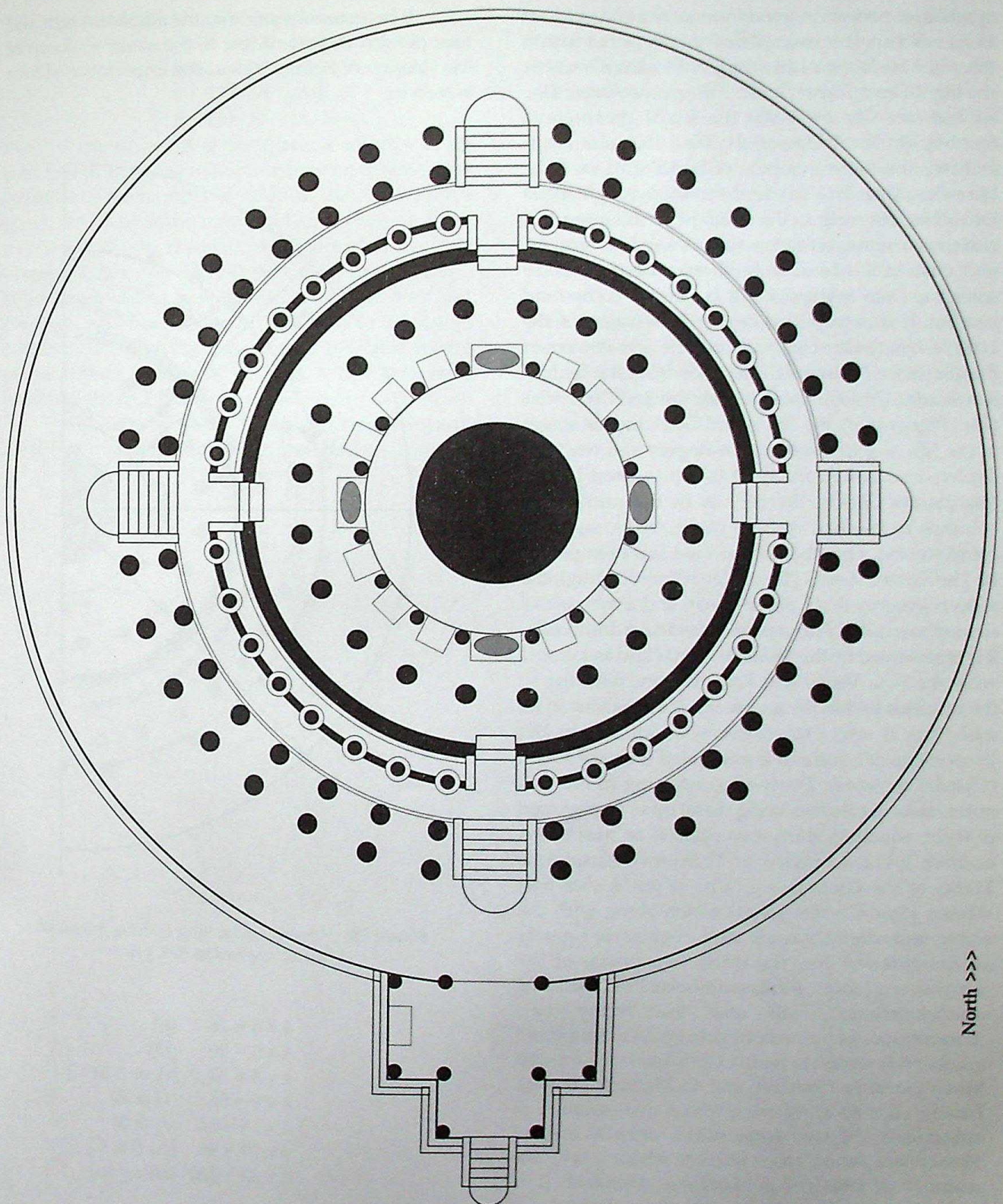
If the circular *Manduka Mandala* is impressed upon the plan of the *Vatadage* of Polonnaruwa, one becomes aware of its efficacy (See: **Figure 38**). The whole is enclosed within the *mandala's* perimeter. The second circle lies just within the outer rank of thirty-two columns, while the third falls just within the sanctuary wall and the inner circle embraces the *stupa* midway upon its plinth. The *stupa* within its inner circle exemplifies the creative and cosmic locus of the whole. The remaining divisions--the cardinal and intercardinal--separate the outer three ranks of thirty-two columns each into groups of four per rank, or twelve within each quarter.

Numbers in the *Vatadage* of Polonnaruwa are not only of architectural interest, but also of some iconic concern. Seven numerals are apparent: four, five, eight, ten, sixteen, thirty-two, and sixty-four. Four, the number of columns in the far inner quarter, connotes completeness, perfection, the practical element and order. It is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the four streams of milk from the heavenly udder creating the four sacred rivers; represented by the square. Additionally, it is represented by the *Muladhara Chakra*. Five, referring to the columns in the inner quarter, symbolizes the magical, is against evil, represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. Five is exemplified in: the planet Mercury (*Budha*), the Five Buddhas (Indic: *Pancha-Buddha*); The Five Truths (Indic: *Pancha-Tattva*); the five senses; the Five Forces (Indic: *Pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Mystics (Indic: *Pancha-Tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Protectresses (Indic: *Pancharaksha*, Tib.: *bSrung-ma lNga*); and the Five-Headed Hanuman (Indic: *Panchamukha Hanuman*). Eight, as in the eight columns per quarter per rank,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 23 -- *Vatadage* of Polonnaruwa



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

symbolizes perfection, good fortune, and is auspicious in its makeup. It is exemplified in: the planet Saturn (*Shani*), *Manduka-mandala*; the Eight *Mahabodhisattvas*; the Eight Great *Stupas* (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. Ten, referring to the columns in the inner half circle, represents perfection or completeness, success, and cosmic wisdom. It further represents unity emerging from multiplicity. It is the first compound number. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *Dashavataras*); the Ten Powers of *Buddha* (Indic: *Dashabhala*; Tib.: *sTobs-bCu*); the Tenfold Knowledge (Indic: *Dasha-nanam*); the Ten Directions (Tib.: *Phyogs-bCu*); the Ten World Gods; the ten stages in the life of a *Bodhisattva*; ten fingers and ten toes, depicted as: Additionally, it is represented by the *Manipuraka Chakra*. Sixteen, as in the number of columns in the half of both outer ranks, signifies completeness, a number whose √ is 4. It is exemplified in: The Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen insights (Pali: *Solasa-nana*); and a *mandala* of sixteen *pada* called *Padmagarbha Mandala*. Additionally, it is represented by the *Vishudha Chakra* and associated with: the Sun, Venus and *Ketu*. Twenty, referring to the columns within the sanctuary, is auspicious in its make up, it refers to cosmic wisdom and in the proportions of a *stupa*. It is associated with the Moon (*Chandra* or *Soma*). Thirty-two, referring to the two outer ranks of columns being made up of four groups of eight, equalling thirty-two each, is an auspicious number. It is exemplified in: Thirty-two Auspicious Marks of the Great Being (Tib.: *sKyes-bu-chen-pohi mTshan gSum-Cu-rTsa-gNyis*) which along with the eighty secondary signs are the recognizable signs of an Enlightened one; the thirty-two points of the compass--e.g., south, south south-southeast, southeast south-southeast, etc.--and the thirty two characteristics of human physiology. As a compound number it is related to Jupiter (*Brihaspati* or *Guru*), the Moon (*Soma* or *Chandra*), and to Mercury (*Budha*). Finally, sixty-four, referring to the total number of columns in the two outer ranks, denotes eternal blessedness, *karma*, and a number whose √ is 8, the number of *pada* for a *Manduka Mandala*. It is exemplified in: the sixty-four pleasures of *Shiva*.

It becomes obvious that the numbers eight and four play an important role in the iconic makeup of the *Vatadage* of Polonnaruwa. The importance of four is seen in:

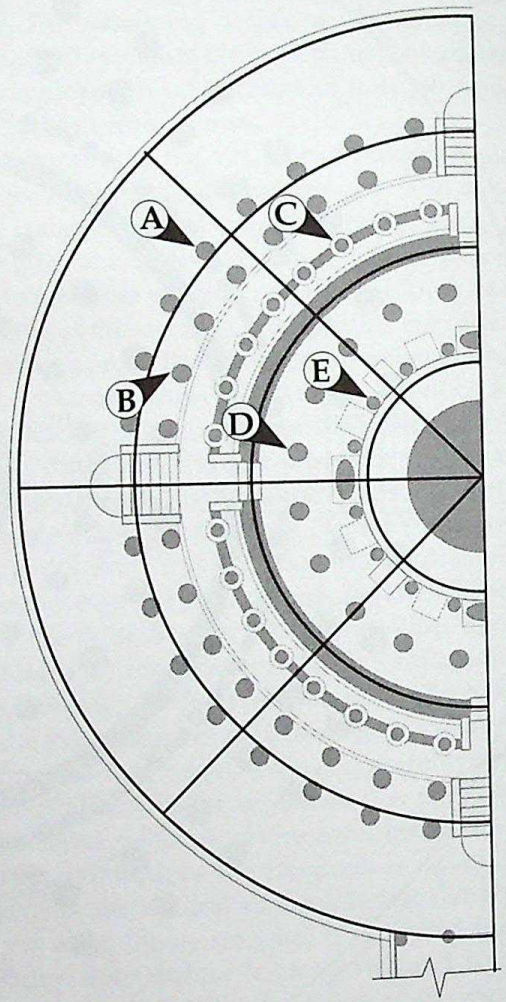


Figure 38: *Vatadage*, indicating circular *Manduka Mandala* applied to half plan

4 x 4 = 16 (E)
4 x 5 = 20 (D)
4 x 8 = 32 (A or B or C)
4 x 9 = 36 (D & E)
4 x 16 = 64 (A & B)
4 x 24 = 96 (A, B & C)
4 x 33 = 132 (all ranks).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Vatadage of Polonnaruwa (Concluded)

The number eight assumes importance:

8 x 2 = 16 (1/2 A, B & C)
8 x 4 = 32 (A or B or C)
8 x 8 = 64 (A & B)
8 x 12 = 96 (A, B & C).

Finally, the numeral thirty-three, a quarter of all columns to be found within the major element of the *Vatadage* or the number of columns that fall within a quadrant, is of some interest. Thirty-three denotes perfection (two three's), and completion. It is exemplified in: the thirty-three deities of the *Vedas*--eight *Vasus*, eleven *Rudras*, twelve *Adityas*, *Indra* and *Prajapati*, and the number of vertebrae in the spinal column. As a compound number, it is related to: the planet Jupiter (*Brihaspati* or *Guru*). When reduced it produces six and, therefore, the planet Venus (*Shukra*).

Within the southeast, southwest, northwest and northeast quarters, and within the third circle are to be found five columns in each quarter comprising a circle of columns--totalling twenty. The middle column in the five--i.e., the third--is bisected by the intercardinal division.

Lastly it is to be noted that the cardinal and intercardinal divisions bisect eight plinth/altars which abut the *stupa*, thereby placing emphasis upon these eight. Presently, there are four *Buddha* images seated upon the altar/plinths of the cardinal directions. It is obvious that these were later additions, however, they doubtlessly supported other *Buddha* images.

The *Vatadage* of Polonnaruwa with its circular plan exemplifies the preference of the Buddhists for the circle over the square. The repetition of circles--eight in all, excluding the *stupa*--be comes a variation upon a theme, an elegant three dimensional composition.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Tivanka Pilimage (Lankatilaka)

Polonnaruwa, Sri Lanka, 12 C. CE

(JA)

The *Tivanka Pilimage*, known as *Lankatilaka*,[30] also referred to as an image house, is a form that becomes associated with the island kingdom of that period. It is located to the north of this architecturally rich medieval capital, Polonnaruwa. It is neither the earliest of the *gandal* or *pilimage* form nor the most unique. The *Tivanka Pilimage* is, however, an exemplar within the *Theravada* tradition of twelfth century Sri Lanka.[31] This image house (*pilimage*) finds numerous contemporary and later parallels within the *gu* temples of Pagan as well as with temples of the later Thai kingdoms. This may be because of its close theological association of these latter two kingdoms in which Sri Lanka is seen as the repository of traditional *Theravada* practices and its theology was tapped by both of these kingdoms.

En plan, the *Tivanka Pilimage* finds its genesis within the earlier square *mandala* temples of the Hindu tradition in India, the *Kilatali Shiva Temple* of Thiruvanchikula being an obvious example. As the resurgent Hindu faith in its early years utilized Dravidian. This would seem to underline the close formal relationship and aesthetic intermingling of the two contiguous faiths and geographic regions--i.e., Hinduism and Buddhism, and Sri Lanka and southern India.

The *Tivanka Pilimage* is essentially axial and is oriented east to west. The structure is composed of a square *garbha-griha* isolated and surrounded by a *pradakshinapatha* within a block of very thick masonry. This feature--i.e., the visual isolation of the main image area--is seen in the earlier *Durga Temple* of Aihole and the *Kilatali Shiva Temple* of Thiruvanchikula. The six narrow openings in the outer wall, giving way to the *pradakshinapatha*, does not allow for an abundance of light into the interior of the *pradakshinapatha*. Certainly, the window placement precludes only but the smallest amount of illumination into the inner sanctuary area. This fact buttresses its cave-like (womb) quality. The walls of this *pradakshinapatha* were covered with murals which have suffered the ravages of time. Extending to the east is a vestibule-hall of narrower

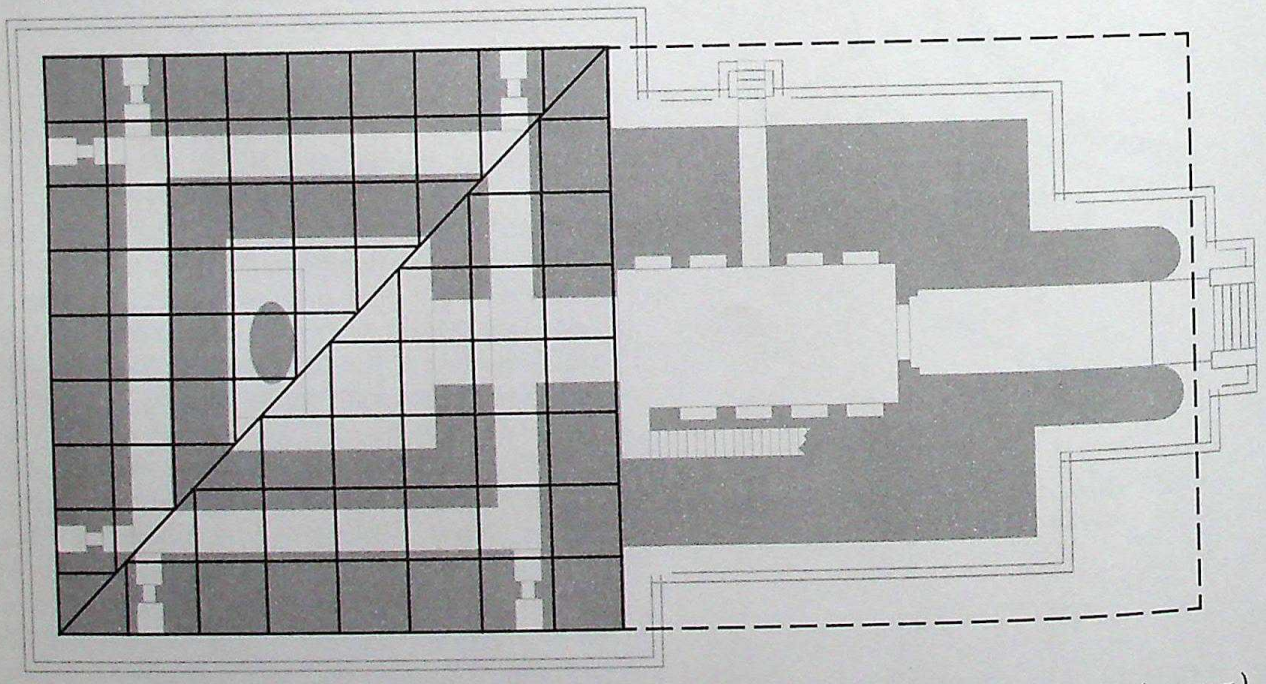


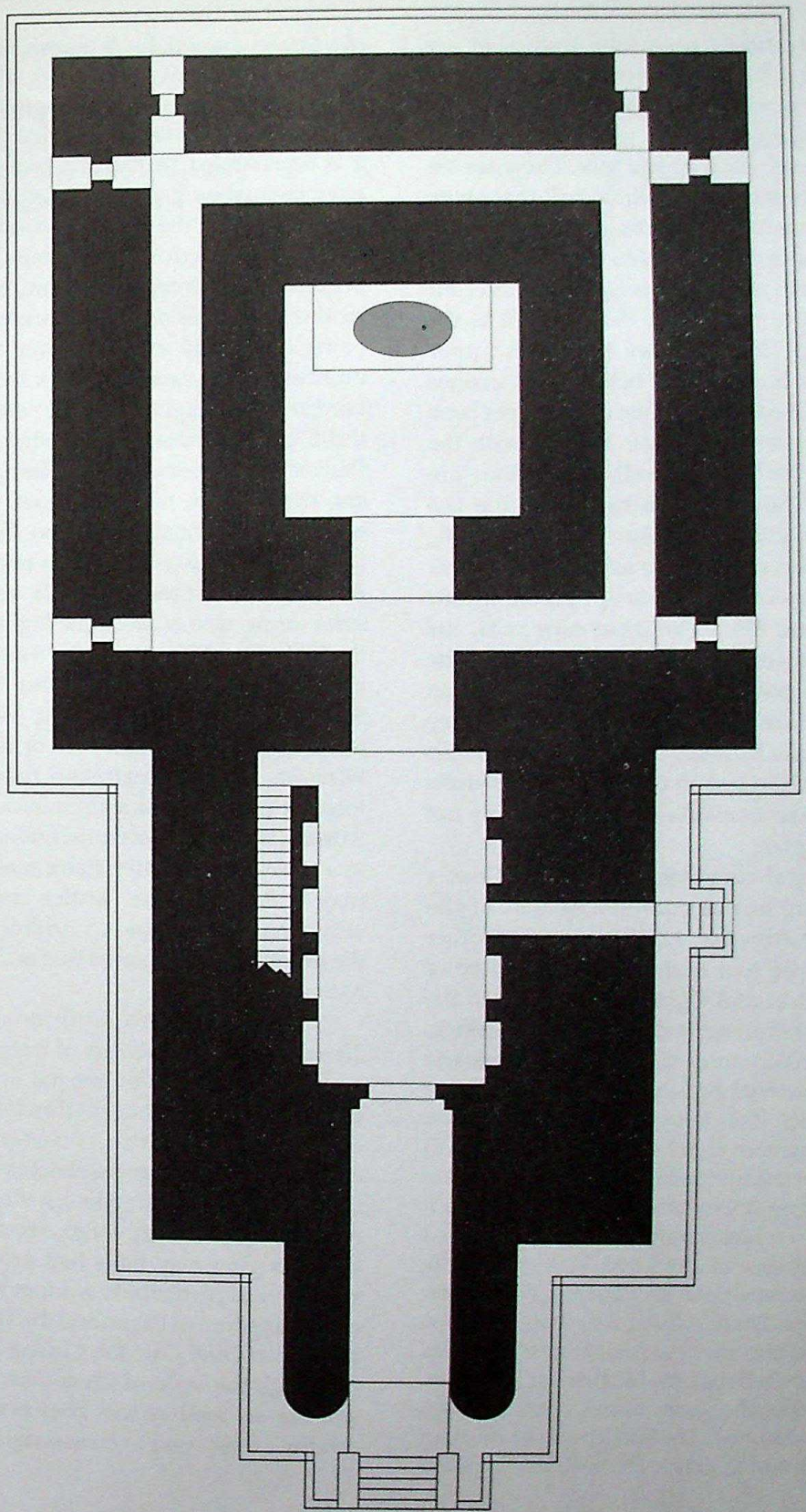
Figure 39: *Tivanka Pilimage*, primary block, indicatingsixty-four and eighty-one *pada* grid and extension (- - - - -)

Buddhist temple forms, so too in this island kingdom did the Buddhists adapt to their own use forms that were essentially Hindu in origin, particularly outer dimension than the sanctuary block. Its internal space is also narrower than the *garbha-griha*. It is of greater length in proportion to its width than previous

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 24 -- *Tivanka Pilimage*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

structures. The vestibule possesses walls that are considerably thicker than those of the sanctuary block. In addition to the main entrance to the east there is a narrower opening to the north giving the plan an asymmetrical, though axial appearance. These are the only two openings into the vestibule hall that allow light to enter that space. The vestibule-hall holds eight niches: four on the north wall--two on either side of the subsidiary, north entrance passageway--and four on the south wall to the east of the entrance to the internal stairway. This stairway led to an upper terrace. Doubtless these niches held sacred images related to the Lord Buddha, but they too have not been preserved in their original locale. Finally, with the extension of this hall, the overall proportions are nearly 2:1--i.e., the length is nearly twice the dimension of the width (See broken line: **Figure 39**).

Nine achieves significance as it would appear that the *Paramashayika Mandala* is applicable to this temple (See: **Figure 39**).[32] The inner nine *pada*, the *Brahmásthana*, encloses the sanctuary space, and the outer walls of the *garbha-griha* are contained within those *pada* which are the abodes of the secondary deities. The *Manduka Mandala* of sixty-four *pada* also appears applicable, but less so than the *Paramashayika Mandala*. The circular *Manduka Mandala* is simply not applicable to this plan.

The numerical considerations of the *Tivanka Pilimage's* plan are not as complex as that of the *Vatadage* of Polonnaruwa or, for that matter, of other structures. However, two numerals appear to be of some importance: six and eight. Six, referring to the six openings in the outer wall of the main block, denotes the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. This integer is considered to be the most perfect number (1 + 2 + 3 = 6 or 1 x 2 x 3 = 6) and the product of the first male and female numbers (2 x 3 = 6) signifying universal attraction. As such, it is considered to be a lucky number. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu*; the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*) being: *Muladhara, Svadhishthana, Manipura, Anahata, Vishuddha & Ajna*; the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra*. Eight, referring to the eight niches, denotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This integer as even, is representative of motherhood. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature) being: *akasha, vayu, tejas, apa, kshiti, sattva, rajas* and *tamas*; the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges being: *sita, ushna, sukha, duhkha, iccha, sattva, rajas & tamas*; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). The even (feminine) eight is assigned to a powerful and often fierce masculine planet. This may be a referent to: "justice and balance between attraction and repulsion." Additionally, it represents the number when squared that makes up the *Manduka Mandala*.

There are two additional elements of the *Tivanka Pilimage* which are of interest. First, the width of the *garbha-griha's* internal space is of a wider dimension than the vestibule-hall placing less emphasis upon this *mandapa*-like area and considerably more on the sanctuary. This may be due to the size of the central image which, due to its base, must have been very large. Secondly, the influence that this plan may have had on subsequent sacred structures is particularly evident in the temple forms of the Kingdom of Pagan and the Thai Kingdoms, such as the *Wat Chedi Chet Yot*, Chiang Mai (See: **Plate 75**)--although the scale of *Chedi Chet Yot* is considerably smaller--as well as the Thai predilection towards axiality as opposed to cross-axiality.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Tivanka Pilimage (Concluded)

The scale, massive in proportion, is further underlined by the unusually thick walls. Walls which were necessary to sustain its height. The scale not only underlines the perceived political, aesthetic and economic importance of this kingdom, it may be equated with the concept of merit, so important to the Theravadists.

Standing as it does, massive midst lesser surroundings, the *Tivanka Pilimage* of Polonnaruwa serves as a religious and aesthetic beacon. It is a sentinel guarding the teachings and faith from which it sprang.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Brahmeshvara Temple

Bhuvaneshvar, Orissa, 1075 CE

(HS, MB)

The *Brahmeshvara Temple*, in Orissa, has been used as an paradigm for Hindu temple complexes much in the same way as *S. Sernin*, Toulouse has been used as a French Romanesque exemplar, or the *Notre Dames* of Chartres and Paris have for the Gothic. The *Brahmeshvara Temple* becomes a viable *vimana* and an example of the axial ensemble plan. Composed of the main temple, oriented east to west and with four subsidiary shrines placed at the intercardinal points--the western two oriented towards the east and the eastern two oriented towards the west.

The grid imposed upon **Plate 25**, indicates the placement of the five elements and their relationship one to the other.[33] The center of the ensemble is at the *antarala*, the transition from the *mandapa* proper and the *mukhamandapa*, indicated by **A**.[34] The approach to the divine, exemplified by the image (**B**) is housed in the center of the *garbha-griha* (**C**). It is the hub, the axis, the nerve center of the whole complex. It seems noteworthy that this holy image is placed well to the west of the physical center (**A**).

The *garbha-griha* (**C**)[35] and the ancillary shrines (**D**)[36] are based upon a square *mandala*. The same is also true of the *mandapa* (**E**). Yet, all six elements relate to circle (**F**). Doubtless, these apply to the cosmic significance of the square within the Hindu faith and its relationship to the terrestrial sphere (the circle). In addition as mentioned earlier, these also relates to the two *Vedic* altars--the sacred fire was transported from the circular, terrestrial altar to the sacred square altar. This practice may also be the reason that the first step (**G**) from the *antarala* to the *ardhamandapa* is circular in form, as are the succeeding steps.

The ancillary or satellite shrines are oriented towards the central image--i.e., the two west shrines face east and the two east shrines face west. This would appear to physically underline the obvious importance of the main sanctuary. Additionally, the axes on which they rest are related to the axis of the whole ensemble. The two western shrines center diagonal is an extension of the *garbha-griha's* center diagonal axes (**H**). The two eastern shrines are similarly situated within the corresponding *pada*. It is of further interest to note that if one traces a line (**J**) from the center of one auxiliary shrine (**D**) to the center of the diagonal shrine, this line will also pass through the center (**A**).

En plan, the *mandapa*, it is to be noted, has

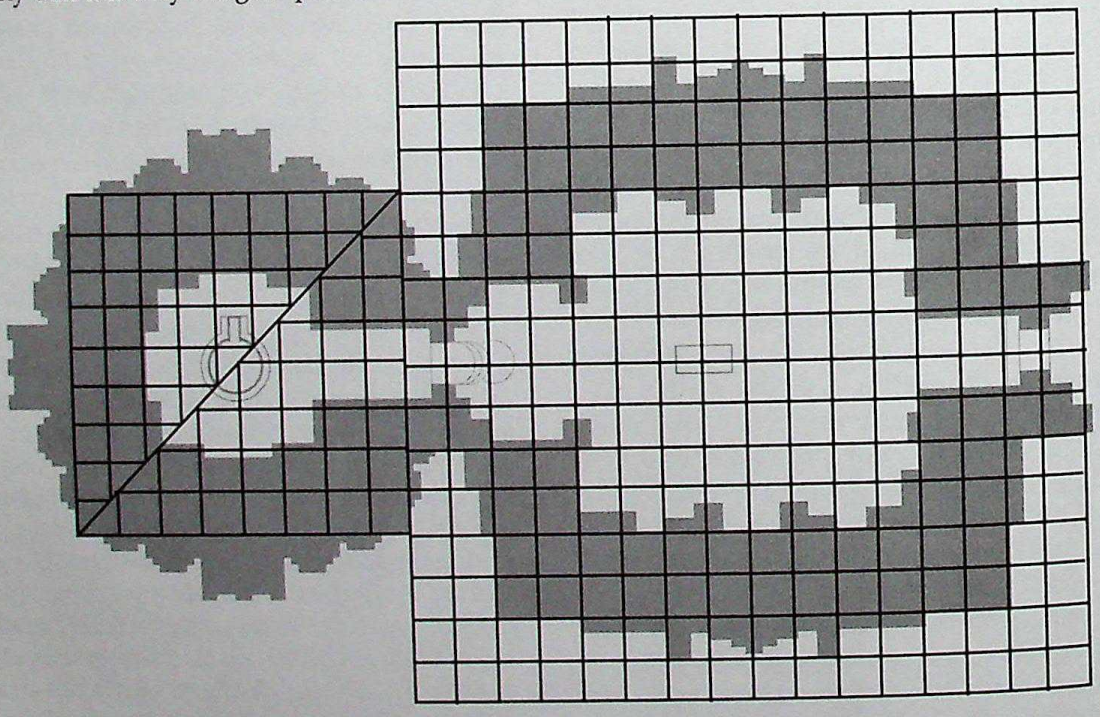
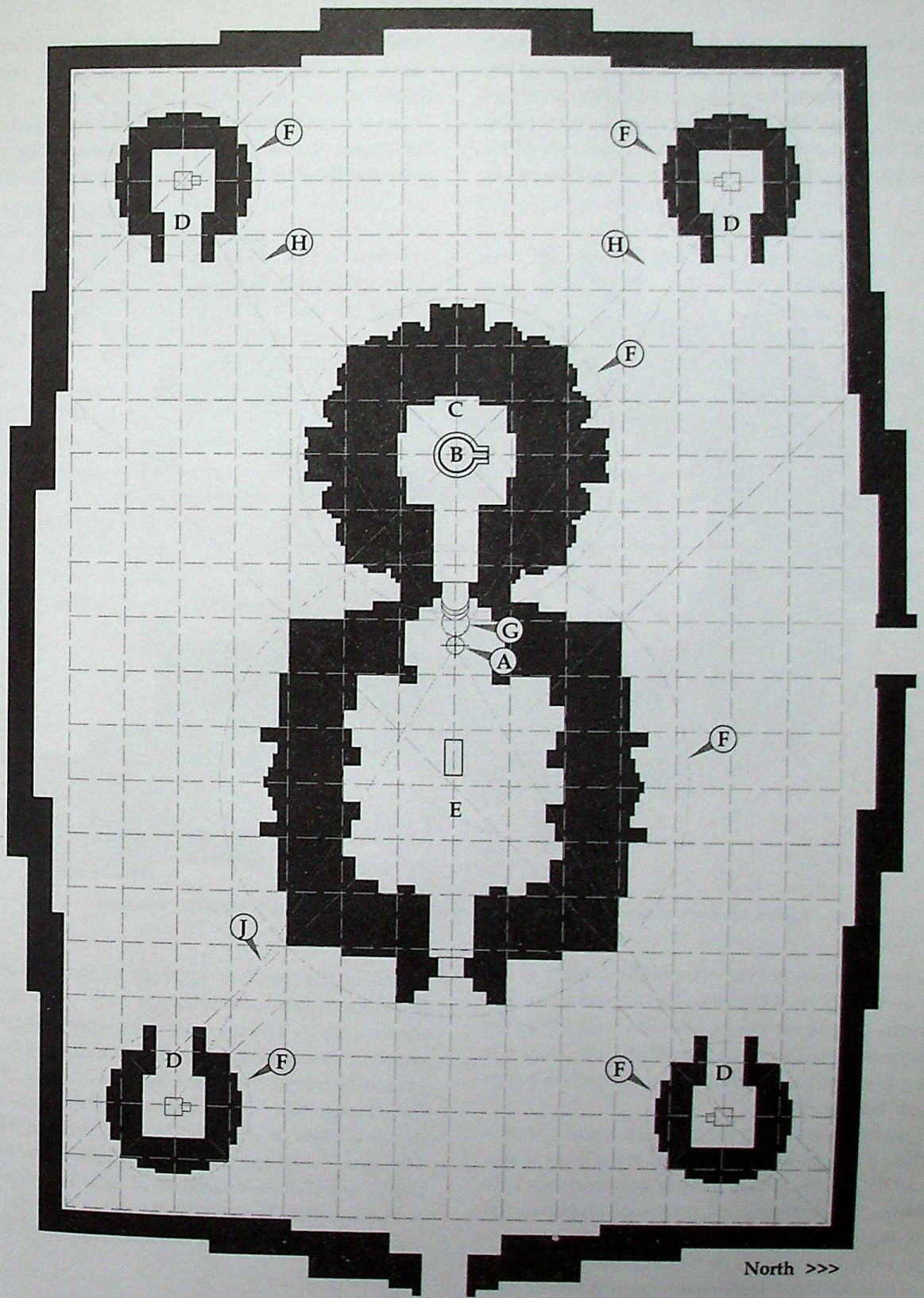


Figure 40: *Brahmeshvara Temple, garbha-griha*, indicating a sixty-four and eighty-one *pada* grid and grid over *mandapa*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 25 -- *Brahmeshvara Temple*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

assumed some importance, due to its size-relationship to and with the *garbha-griha*. However, when viewing the exterior elevation it assumes a secondary role (See: **Figure 15**). The lack of fenestration in either the *mandapa* and the *garbha-griha* creates a dark, cave-like interior, particularly in the sanctuary or *garbha-griha* .

hundred-seventy-six)--of the *Brahmeshvara Temple* are related to the cycles of the moon is not merely a coincidence.

The imposition of the *Manduka Mandala* and *Paramashayika Mandala* upon the plan of the *garbha-griha* and the extension of this *Manduka Mandala pada*

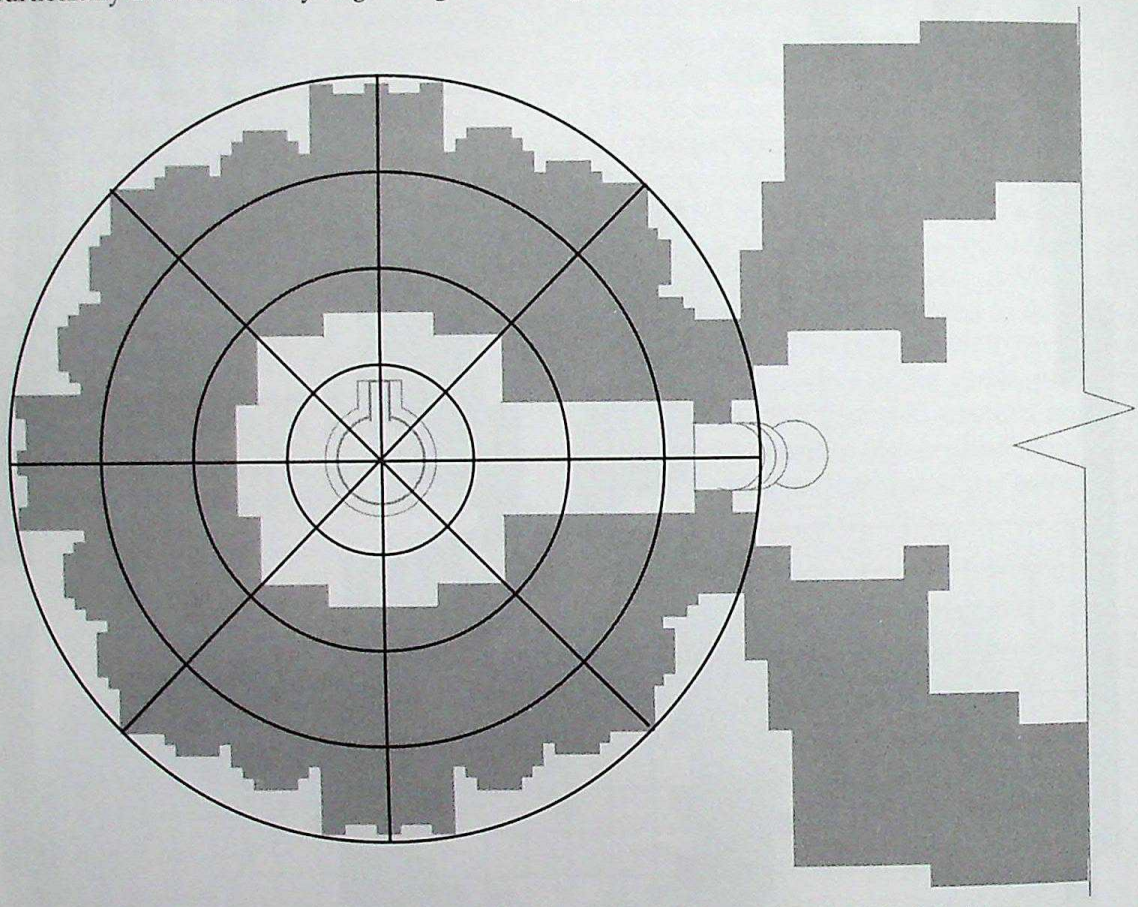


Figure 41: *Brahmeshvara Temple, garbha-griha,* indicating a circular *Manduka Mandapa*

Again, this emphasizes the womb-like quality of the *garbha-griha* and its relation to the sacred cave. The thick walls of both elements, likewise, underlines the cave, however, it assumes a secondary importance in keeping the interior relatively cool in the hot sunny clime of Bhuvaneshvar.

As has been noted the proportions of a temple as well as a temple ensemble are of some importance. Here at the *Brahmeshvara Temple* one finds that the width--i.e., the north-south dimension--is fourteen (or twenty-eight) *pada*. The length of the whole is twenty-one (or forty-two) *pada*. The fact that the *pada*--with a total of one-hundred-forty-seven (one-thousand-one-

width to the *mandapa* appears to indicate that the *Manduka Mandala* of sixty-four *pada* is applicable to the sanctuary. The extension and duplication of the width of these *pada* to the *mandapa* indicates a *mandala* of one-hundred-forty-one *pada*, a *Deshiya Mandala* (See: **Figure 40**). A stated above, the circle is utilized in the design of the temple. If a circular *Manduka Mandapa* is impressed over the *garbha-griha*, one sees that it establishes a number of salient contacts and inclusions (See: **Figure 41**). However, it is the square *mandala* that is the basic design element of a Hindu temple.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Brahmeshvara Temple (Concluded)

Three numbers are of importance to this temple ensemble: fourteen, twenty-one and one-hundred-and-forty-seven. Fourteen, referring to the number of *pada*--assigned by HS--across the top of the ensemble, represents involution, transmutation and relates to sexual relations. It is exemplified in the full moon, two of the moon's four cycles (waxing and waning); the *chaturdasha nadis;* the *Chaturdasha-dala trikona (Sarva Saubhagya-Dayaka Chakra of the Shri Chakra*); and the Fourteen *bhuvanas*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces five and, therefore, the planet Mercury (*Budha*). Twenty-one, referring to the number of *pada*--assigned by HS--along the length of the ensemble, symbolizes perfection, and success. It is related to the cycles of the moon, in this instance all three numbers are masculine, as well as the twenty-one *Taras*. As a compound number it is associated with: the Moon (*Chandra* or *Soma*) and the Sun (*Ravi* or *Surya*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). One-hundred-and-forty-seven, referring to the total number of *pada* assigned by HS, is a number associated with the magic circle. It is the sum of 7 x 21, both of which are numbers associated with the cycle of the moon. It is made-up of the monad 1, plus the complete and practical number 4, plus the sacred 7.[37] As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*), the planet *Rahu* (the ascending node of the moon) and the planet *Ketu* (the descending node of the moon). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). The association with the Moon is noted.

The use of the axial plan, the strict symmetry of the whole and interrelationships of the elements of the *Brahmeshvara Temple* creates a perfection of design and balance that is parallel with the temples of Periclean Athens. As a center of worship, all the design components mirror the perfection of The Absolute, and the ultimate concern of the priest-architect. The *Brahmeshvara Temple* becomes an ideal of perfection, a vehicle leading to The Absolute--a *vimana*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Keshava Temple

Somnathpur, India, 1268 CE

(HS)

At Somnathpur (orig. Somanathapura), a small village in the south, is to be found the impressive *Keshava Temple*. The present temple was built during the Hoysala dynasty by a general in service to the crown, one Somanatha, and within the same century as the *Rajarani Temple* at Bhuvaneshvar, the *Tejapala Temple* at Mount Abu and the *Surya Temple* at Konarak. It represents a trinity; not *Brahmá, Vishnu* and *Shiva*--a trinity of *Brahma*--but the trinity of *Keshava, Janardana* and *Krishna*--a trinity of *Maha-Vishnu* as the supreme deity. A temple which is singular in its form, the *Keshava Temple* presents numerous iconic interpretations.

Oriented to the east, the temple ensemble consists of a surrounding, rectangular girdle wall, *cum* gallery, which presents a solid exterior façade and a colonnaded interior of some sixty-five by fifty-three meters. Centered in the eastern face of this gallery is a developed, but not massive entrance-way. The gallery consists of an inner colonnaded and covered walkway--a *pradakshinapatha*. Facing inwards, towards the inner court and against the outer wall, are sixty-four small chapels--eighteen each on the north and south walls, sixteen on the west wall, and twelve on the east wall, six on either side of the entrance area. The colonnade presents a number of interesting anomalies. No two sides possess the same number of columns--i.e., the west face with its entrance has eighteen columns, including the corner columns; the north face, minus the corner columns already counted, includes seventeen columns, a double set, one column removed, on either side of the stairway, both oriented to the east; sixteen columns across the south face, not counting the corner columns, with a double set immediately to the west of the stairway; and thirteen columns across the south face. The four inner faces with their eighteen, seventeen, sixteen and thirteen columns amounts to sixty-four columns, the same number as the chapels.

The inner court is sunken, and holds the principle shrine(s) ensemble which is elevated upon its own plinth to the same level as the colonnaded gallery. This gives the impression that the principle shrine(s) ensemble is an island. The temple, proper, consists of a rectangular, columned *mandapa* with an vestibule to the east. Situated to the west is an essentially circular sanctuary with two duplicates--one to the south and one to the north. These sanctuaries are characterized as being "star-shaped" or in a "stellar form."[38] Whether circular or star-shaped, these three sanctuaries possess a square as the basic design plan (See: **Figure 42**) which is then rotated, much in the same way as the *Shiva Temple* at Indore (See: **Figure 31**). This rotation in the *Keshava Temple* is 22.5^0 rather than the 30^0 rotation that is seen in the

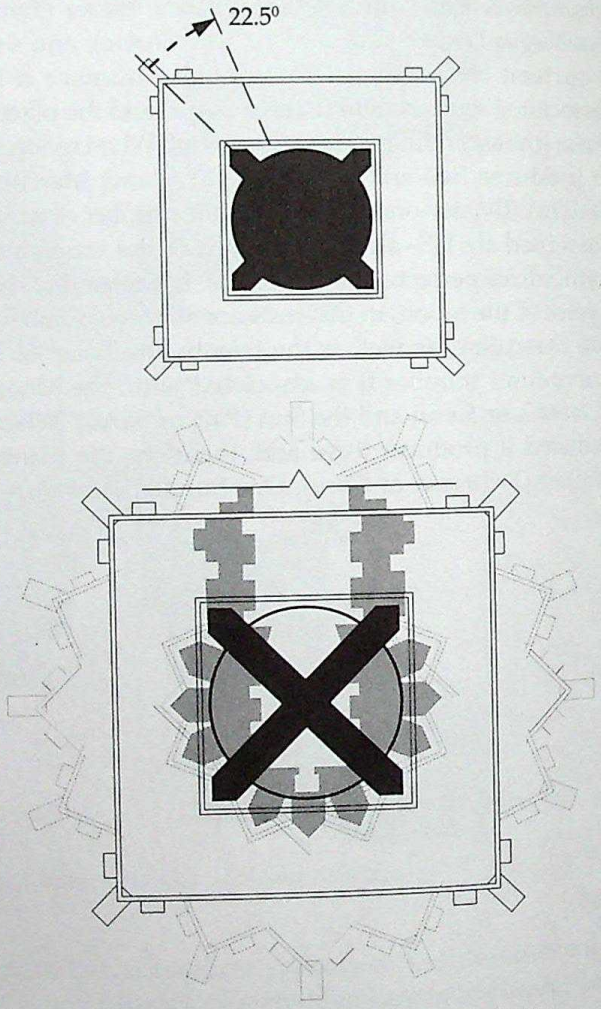


Figure 42: *Keshava Temple,* sanctuary's basic design element (above) and the repetition of the basic design element (below)

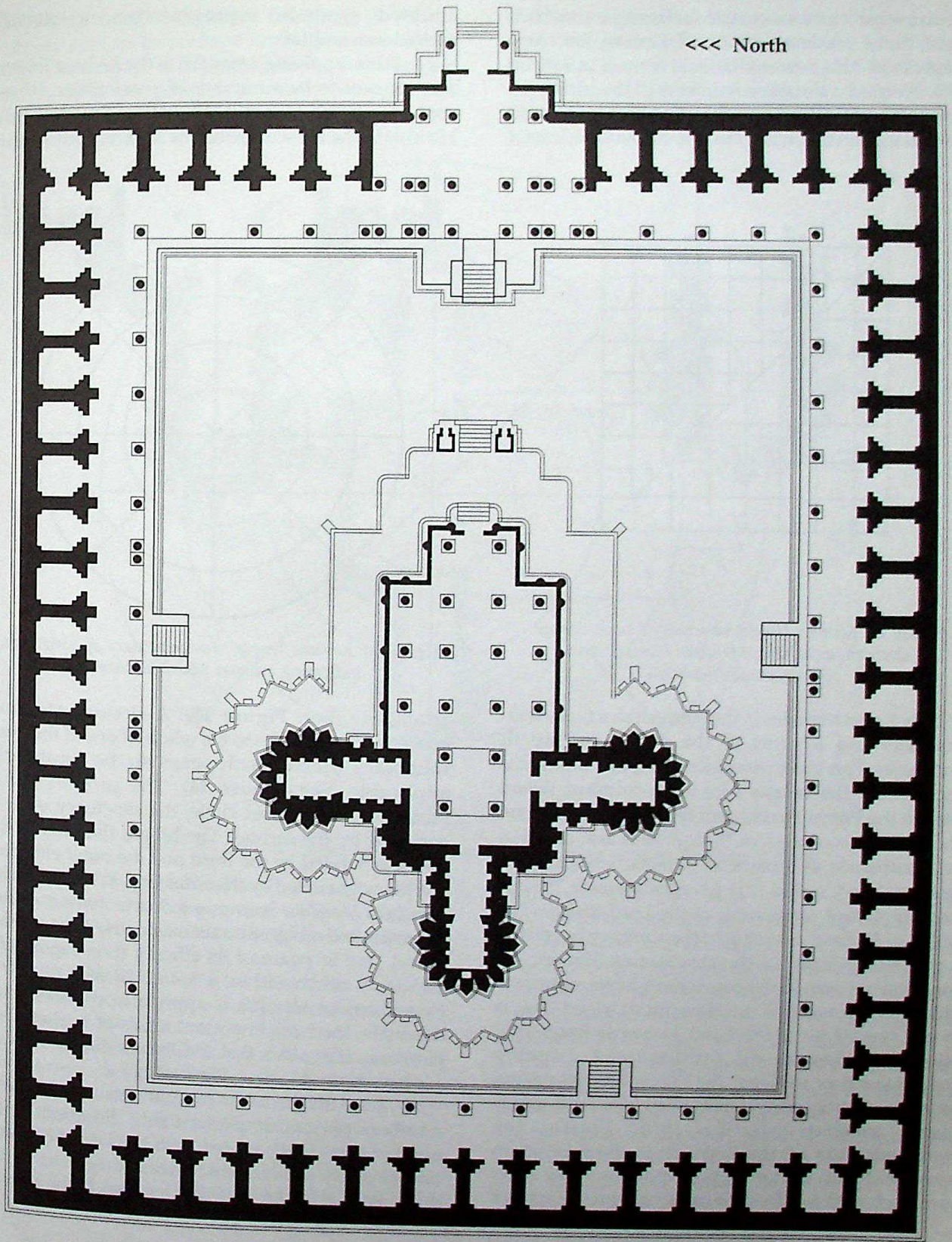
Shiva Temple, creating a sixteen-pointed "star." Steps lead down to the sanctuary ensemble's level from the eastern entrance; two stairways, on the north and one on the south, just east of the north-south median, and one parallel with the sixth chapel from the south.

There are three features which bear important iconic significance. The triple duplication of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 26 -- *Keshava Temple*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

circular, star-formed sanctuaries, referring, as has been noted, to the *Vaishnava* trinity of *Keshava*, *Janardana* and *Krishna*. This representational form is unique in India. Normally, the three members of the trinity are shown in a parallel line with the most important manifestation in the center. Here, in the *Keshava Temple*, the deity *Keshava* resides in the western sanctuary with *Janardana* and *Krishna* in the south and north sanctuaries. This gives prominence of place to *Keshava* who is one of the twenty-four name-forms of *Vishnu* noted in the *Padma Purana* and referred to as "the one who is the rays of the sun."[39] *Keshava* is also noted in the *Mahabharata* as a name of *Krishna*. *Janardana*, on the other hand, called "the giver of rewards,"[40] is a lesser important name-form of the Lord *Vishnu*. The epithet of *Keshava*, referring to the sun may be related to the "stellar-form" of the sanctuaries. The second iconic form is seen in the courtyard's lowered surface which resembles a tank or lake with an island. This is an apt symbol since the Lord *Vishnu* is frequently associated with water--e.g., *Matsyavatara*, *Kurmavatara* and *Varahavatara*. In Nepal, the *Vishnu-Shayana* resting on a *naga* is frequently represented in a tank and is highly venerated in this form. Finally, the representation of the sixty four chapels when associated with the four sets of columns of the inner face, each with a different sum of columns becomes a doubled symbolic representation of eternal blessedness and *karma*.

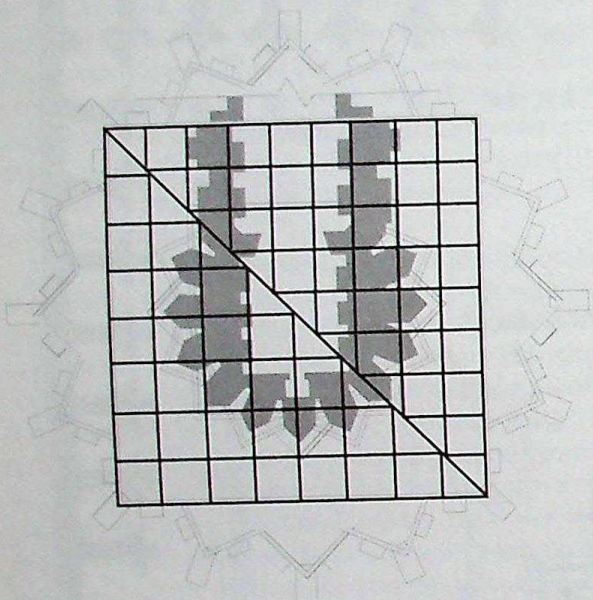


Figure 43: *Keshava Temple*, sanctuary's basic design element, indicating *Manduka Mandala* and *Paramashayika Mandala*

When applying a *mandala* to the *Keshava Temple*, there appear to be a number of possibilities. When applying either a *Manduka Mandala* or a *Paramashayika Mandala* to the basic element, the square, both appear applicable (See: **Figure 43**). A circular *Manduka Mandala* when applies to the whole of one of the three sanctuary elements appears to be eminently applicable (See: **Figure 44**). The *garbha-griha* is protected by the inner circle, the sanctuary mass is encircled by the second. The broad, flat area of the plinth is banded by the third and the outer elements are, likewise circled by the outer ring. When a circular *Manduka Mandala* is impressed over the sanctuary ensemble and centered on the axes of the three garbha-grihas, one is aware of its efficacy (See: **Figure 45**). Similarly when either a *Manduka Mandala* or a *Paramashayika Mandala* is applied to the sanctuary ensemble, there are important levels of applicability. However, it appears that the *Paramashayika Mandala* is more applicable (See: **Figure 46**).

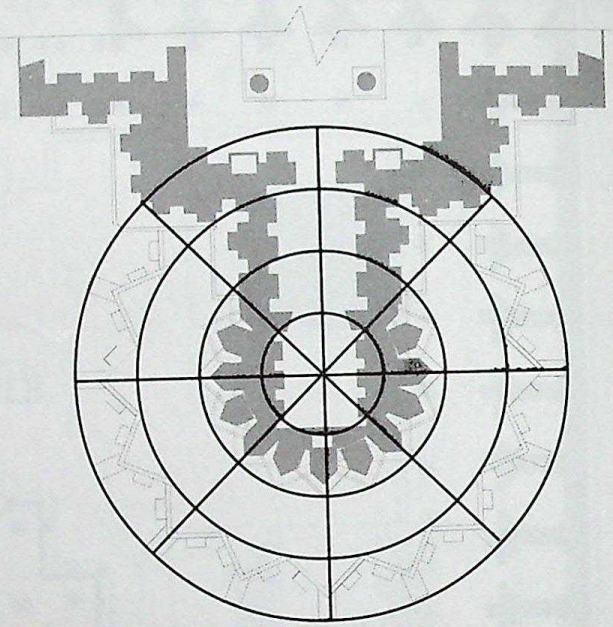


Figure 44: *Keshava Temple*, west sanctuary and platform, indicating circular *Manduka Mandala*

As with the other monuments in this study, numbers play an important role. Frequently the number three is associated with the Lord *Shiva* and one sees its occurrence, either singly or in its multiplicands in various *Shaiva* temples. In the *Keshava*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Temple, the number eight (or four) and its related integers appears to predominate--e.g., the sixty-four perimeter chapels and the columns of the courtyard façade, the sixteen chapels across the western wall, the twelve columns within the *mandapa*, the four columns at the axes of the three sanctuaries, and the sixteen point star forms. The four integers which makeup the columns per face of the courtyard: thirteen, sixteen, seventeen, and eighteen also assume significance.

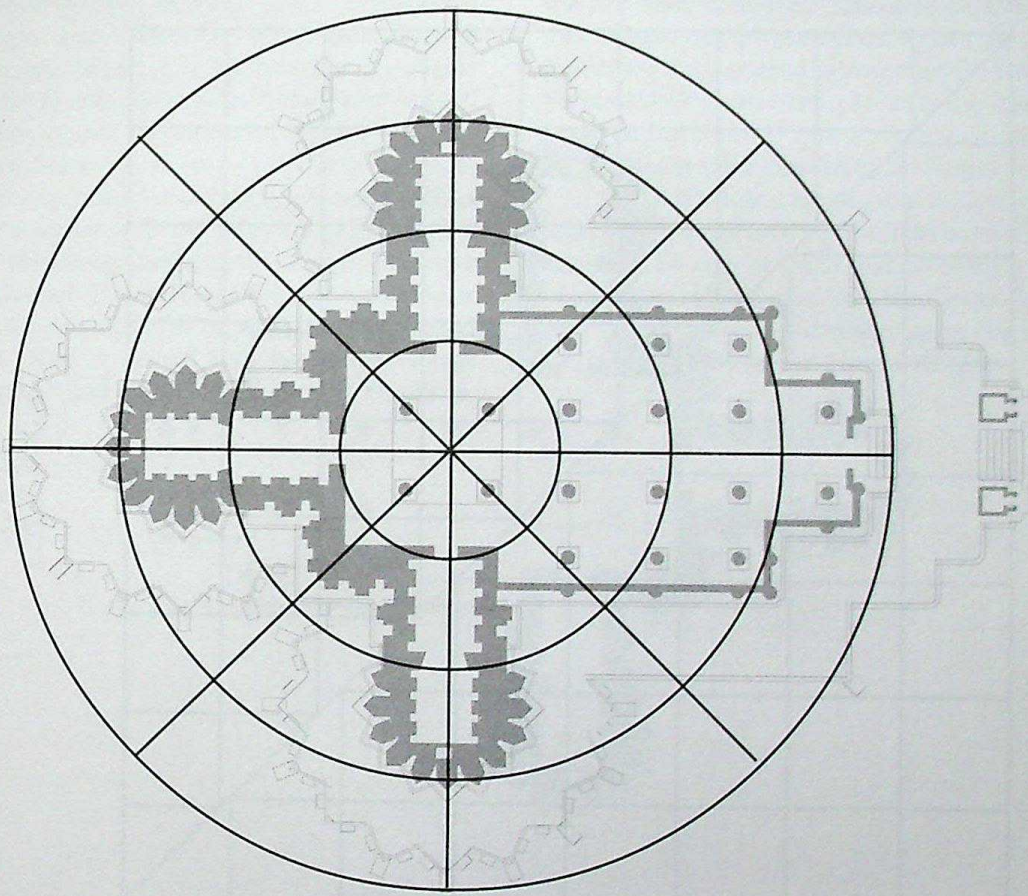


Figure 45: *Keshava Temple*, sanctuary ensemble, indicating circular *Manduka Mandala*

Four, referring to the columns at the axes of the three sanctuaries, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). As with the number two, the even number four is seen to be associated with the Moon. Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Twelve, referring to the columns of the *mandapa* and the eastern chapels, denotes sacrifice and is related to immortality. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Keshava Temple (Continued)

Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. Thirteen, referring to the number of columns along the southern face of the court, denotes the imperfect, transformation, change, the Destroyer and Creator and the ability to overcome obstacles. It is exemplified in the thirteen discs of the *kota*; the Thirteen Mystic Powers of the *Buddha* (Indic: *dasha-tathagata-balani* plus *avenikasmrityupasthana*); thirteen lunar months, the thirteen days involving the rites of the dead (*tehravim*); and the Thirteen Means of Removing Defilements (Pali: *dhutanga*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Jupiter (*Brihaspati* or *Guru*). When reduced it produces four and, therefore, the planet *Rahu* (the ascending node of the moon). Sixteen, referring to the number of eastern chapels and the columns along the southern face of the court, denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness or balance being made up of opposites--the Sun and Venus. It is a number whose $\sqrt{}$ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*.

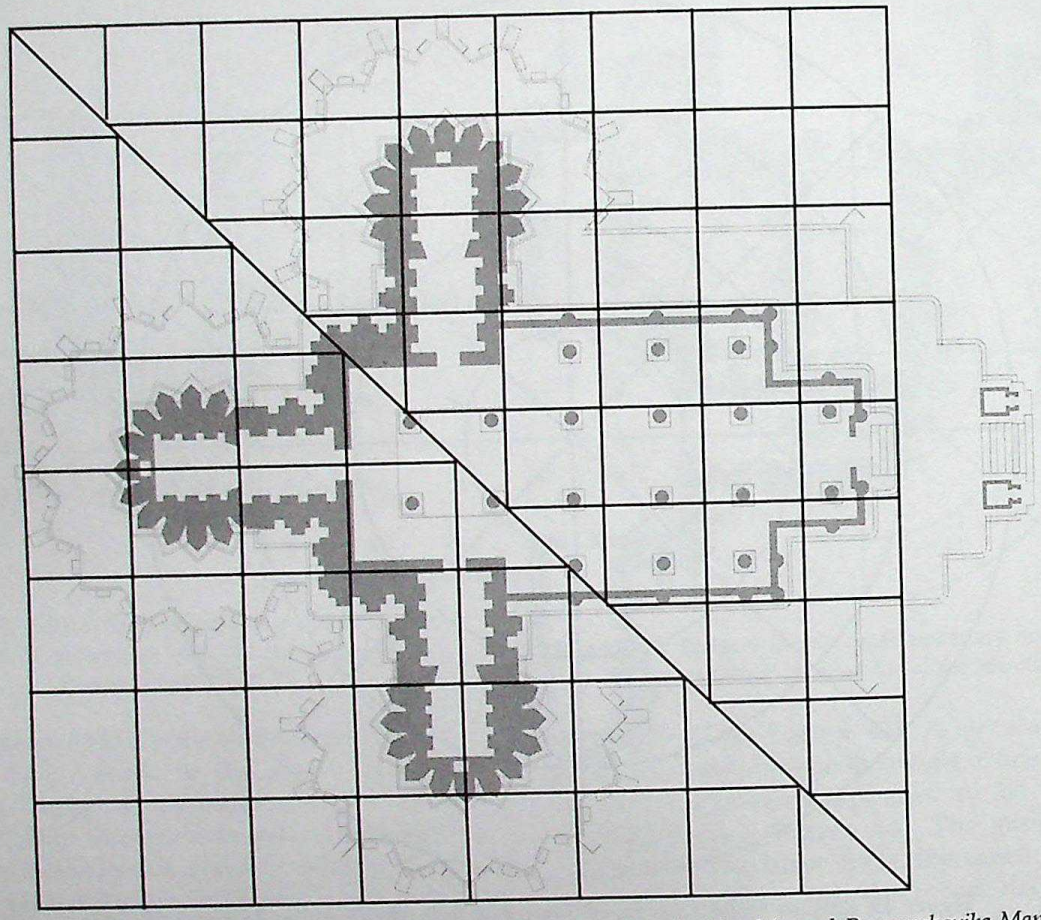


Figure 46: *Keshava Temple,* sanctuary ensemble, indicating *Manduka Mandala* and *Paramashayika Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Seventeen, referring to the columns along the northern face of the court, denotes conquest, wisdom and immortality. This number is a mystical number, a symbol for speech, as well as the number of assent and one which represents struggle. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces eight and, therefore, the planet Saturn (*Shani*). Eighteen, referring to the number of chapels each on the north and south side of the court as well as the columns across the eastern face of the court, denotes completeness, it can also denote chaos, deadlock and a spiritual hinderance. It is exemplified in: the eighteen *parvas* of the *Mahabharata*; the eighteen chapters of the *Bhagavadgita*; the eighteen sense Elements (Pali: *dhatu*): and sunset (the eighteenth hour or 6:00 pm). As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Saturn (*Shani*). When reduced it produces nine and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Finally, sixty-four, referring to the total number of chapels and the number of columns surrounding the inner court, denotes eternal blessedness and *karma*. This is a number whose √ is 8. It is exemplified in: the number of *pada* for a *Manduka Mandala*; sixty-four chapters in the *Rig Veda*; sixty-four pleasures of *Shiva*; the sixty-four *vidyas*; and the sixty-four *Yoginis*. As a compound number it is associated astronomically with the planet Venus (*Shukra*) and the planet *Rahu* (the ascending node of the moon), When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*).

It is of interest to note that this most impressive temple was dedicated and built to honor the *Vaishnava* trinity in an area of India that is strongly *Shaiva* in its orientation. Quite possibly the General Somanatha was a *Vaishnava*, indicating, again, the passive and inclusive quality of the Hindu religion.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Garden Pavilion

Kotilal Fort, Delhi, 14 C. CE

(HS)

It is understandable that the square with its cosmic-iconic implications is utilized in India by the Hindu for the design of sacred structures. The square assumes a parallel iconic import as the cruciform does for Christian ecclesiastical architecture. However, its application to a secular structure is of interest. Not

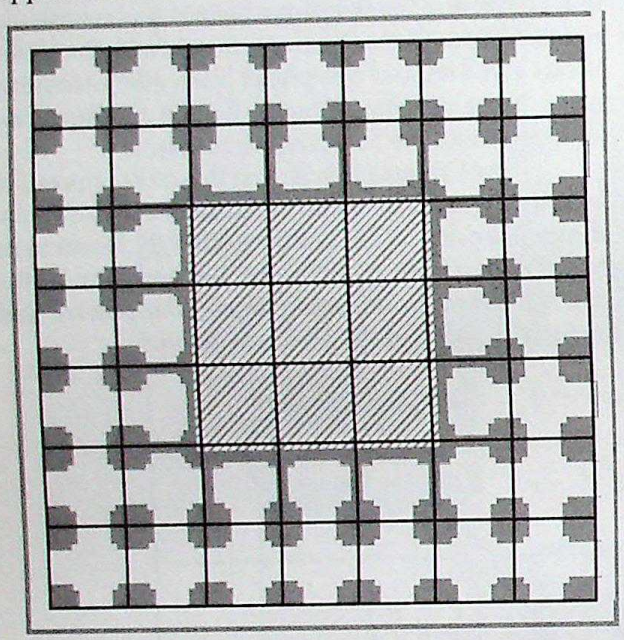


Figure 47: *Garden Pavilion*, ground floor indicating forty-nine *pada* grid

only within the Indian Hindu tradition, but also the Indian Islamic tradition the square was utilized as a basis for architectural design.[41] Doubtless long centuries of the square's employment assumed the place of a cultural imperative which transcended religious barriers.

The *Garden Pavilion* of the Kotilal Fort, which employed the square is important for a number of reasons. It exemplifies: the scope of pre-Mughul royal architecture, the development and application of architectural design to climatic conditions, the utilization of the *mandala* in secular architecture and the continued development of construction and engineering techniques in India.

The *mandala* concept is evident in the basic design of the whole of this monument, and underlines the preference of the square to Hindu and Hindu-influenced India. The *mandala* grid ascends from the ground floor to the cupola-roofed third storey. The ground is based upon a *mandala* of forty-nine *pada* (*Sthandila Mandala*) (See: **Figure 47**). The first storey, reduced by one rank of *pada* on all four sides, presents a *mandala* of twenty-five *pada*, an *Upapitha Mandala* (See: **Figure 48**, left diagonal half). Finally, the second storey exhibits a *mandala* based upon nine *pada*, a *Pitha Mandala* (See: **Figure 48**, right diagonal half).

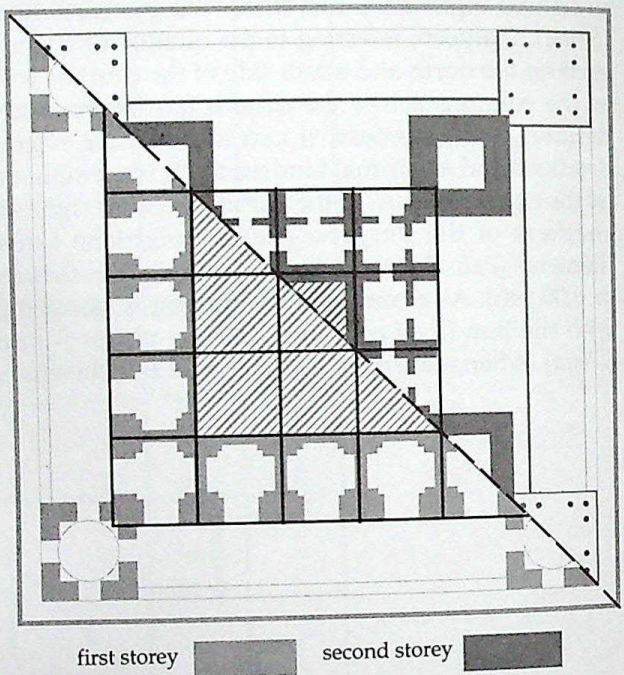


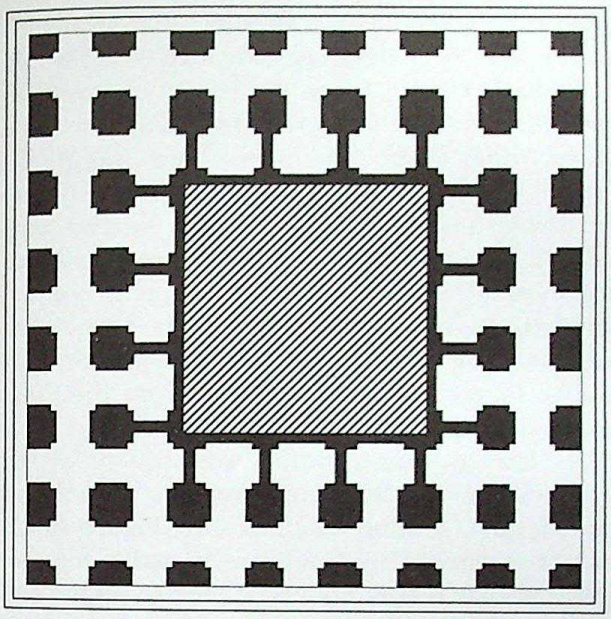
Figure 48: *Garden Pavilion*, first storey twenty-five *pada* and second storey nine *pada* grids

The ground floor is based upon the number seven. Seven is a numeral which denotes the sacred and the mystic being made up of the spiritual three (masculine) plus the practical four (feminine). It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), and the *sapta-samudra* (seven holy seas). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Forty-nine a number whose $\sqrt{}$ is 7, the number of *pada* for a *Sthandila Mandala*. The first storey's number five symbolizes the magical, is against

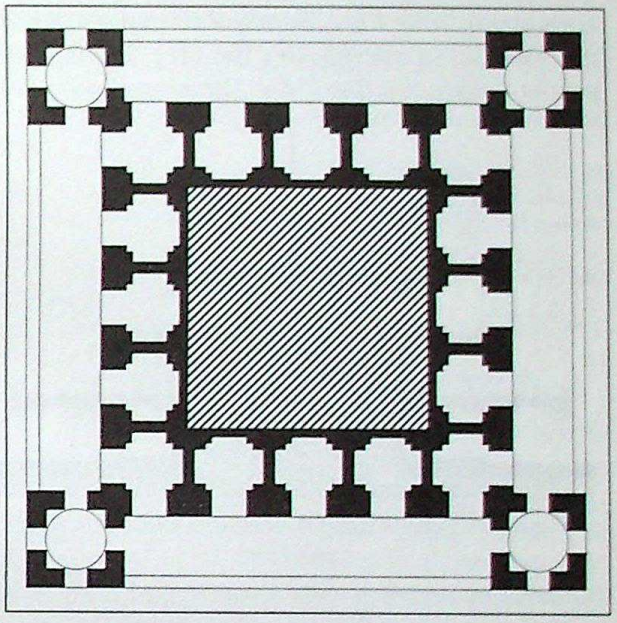
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

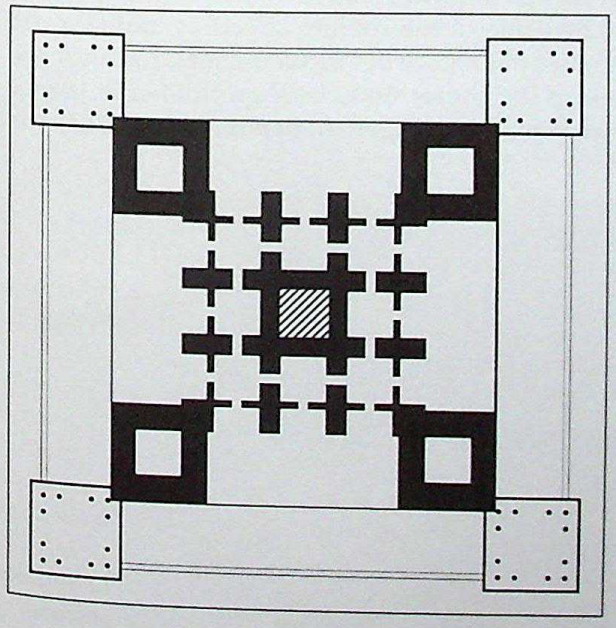
Plate 27 -- *Garden Pavilion*, Kotilal Fort



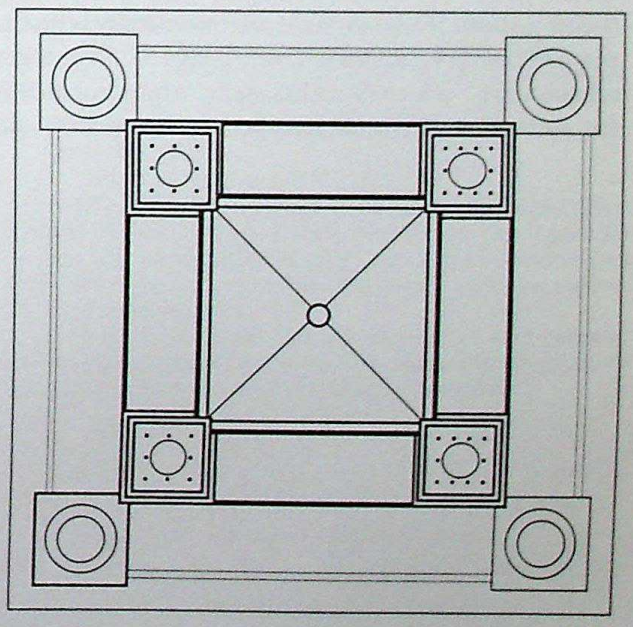
Ground Floor



First Storey



Second Storey



Third Storey

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

evil, represents the natural man, is revolutionary and reduces all to the meaningful. Five is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the

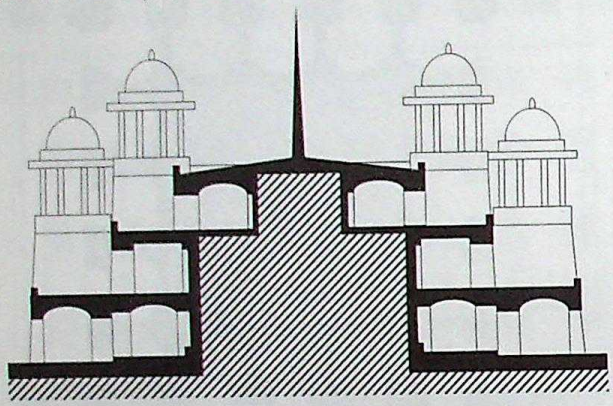


Figure 49: *Garden Pavilion*, sectional view indicating rock core

vamanachara Tantra; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Twenty-five is an integer whose √ is 5, which is additionally important as it is the sum of mystic male numbers in succession and the *Upapitha Mandala*. The second storey's enclosure is divided into three sections. Three is a number of perfection, the trinity, the divine family (father, mother, child). It represents unity plus diversity which equals perfection. Three is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Finally, nine is represented by the *Pitha Mandala*.

The conception and development of the structure, and its construction around a natural rock outcropping, suitably cropped (See: **Figure 49**), is indeed inspired. This solid core, rooted in the cool earth, acts as a thermal flywheel. It preserves the cool of the evening well into the day and the day's warmth through the cooler evening hours, a natural form of climate control aided by the thick masonry walls. This is a creation of a culture which was intimately aware of its environment and doubtlessly had intimate knowledge of the cooling effects of mother earth applied this knowledge in this unique structure.[42] The use of the square finds later application in Islamic structures as well (See: **Appendix A, Plate 103**).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(India and Sri Lanka)

[1] GC, p. 34.

[2] See also: "*Stupa* Symbolism and Numerology" above.

[3] AG, p. 3, suggests that there is the possible relationship between the practice of burial in *tumuli* in India with the Nordic Kurgans. Certainly the use of mounds of earth, sometimes protected with stones, is an ancient practice. The pre-dynastic and early dynastic Egyptians are suggested to have used *tumulus*-like mounds which were precursors to the *mastaba*.

[4] *Ibid.*, pp. 4-5.

[5] The bold letters refer to the letters in **Plate 13**.

[6] As in most religions and ethnic groups the right hand or side is considered the most auspicious or favorable. The right side should be turned towards an important image, one circumambulates clockwise so that the right side is towards the shrine. The right (*dakshina*) is associated with the male. The left (*vamachara*) is feminine.

[7] FB II, pp. 264. Additionally, it is to be noted that the *sauvastika* is a *shakti tilaka* icon.

[8] The bold letters refer to the letters in **Plate 14**.

[9] The bold letters refer to those in **Plate 15**.

[10] HS suggests that the form may have developed from an ancient worship-precinct of bamboo, or other wooden poles, p. 96.

[11] An exception to this is the apsidal *vihara* to the south of *Stupa I*, Sanchi, which generally follows this plan in a protracted form.

[12] The *mandala* is generally cross axial in inception. A *mandala* of twenty-five *pada*, whose √ is 5, may be imposed upon the central hall. Further, a *mandala* of forty-nine *pada*, whose √ is 7, is implied which would include the surrounding cells, eastern rooms (**B** & **C**) and the vestibule. Implied but not actual as the various cells are of different widths and do not fit comfortably within the number of *pada* for a *Sthandila Mandala*.

[13] The bold letters refer to the letters in **Plate 17**.

[14] HS, p. 135.

[15] The precedents are to be found in: the *Chaitya Hall*, Bedsa; *Chaitya Hall*, Karli; *Chaitya Hall* (No. 18), Nasik; and the *Vihara*, Sanchi.

[16] For example: *Ladh Khan*, **Plate 18**; *Parvati Temple*, **Appendix A, Plate 94**; and *Shiva Temple*, **Appendix A, Plate 95**, among many.

[17] The letters and numerals in bold face refer to those found in **Figure 30**.

[18] The square *Manduka Mandala* poses too many problems--e.g., inauspicious intersections--to be considered as an option for this temple's plan.

[19] Not only within Hindu iconography is this true, but also within numerous other faiths--e.g., various animistic groups, Christian and even Roman religious iconography. The former in the construction of baptistries--e.g., Pisa and Florence, Italy--latter utilized circular temple forms for the worship of Vesta and the Precinct of the Vestal Virgins.

[20] There are a number of other temples dedicated to the Lord *Shiva* which utilize the circle--e.g., *Vijayalaya-colisvara Temple*, Narittamalai (c. 850 CE) (See: **Appendix A, Plate 96**); the *Shiva Temple*, Masaon (c. 950 CE) (See: **Appendix A, Plate 97**); and the *Shiva Temple*, Chandrehe (c. 950 CE) (See: **Appendix A, Plate 98**)--all employed the circle in their plans. Cf. note 103.

[21] It is to be noted that in the planning of the *garbha-griha* (**Plate 10**) and the Auxiliary Shrine (**Plate 11**) 30^0 plays an important role. It implies twelve, a number of cosmic importance.

[22] The eastern niche does not exist as the *mukhamantapa* assumes that place.

[23] An exception is the *Shiva Temple*, Tirunillai in which the outer wall of the *garbha-griha* is circular, but the inner space is square.

[24] As can be seen in the circular *Mahadeva Temple*, Trivandrum, Kerala, or the *Shiva Temple*, Cannanore, Kerala.

[25] The *triratha* and *pancharatha* temples (See: **Figure 14**) later became a hallmark for the Hindu temple.

[26] For example, the *Vatadage* at Medirigiriya dates to 7th C. CE.

[27] The letters in bold face refer to those in **Figure 38**.

[28] Refer to *Subrahmanya Temple* above.

[29] In the Hindu temple this would correspond to a *garbha-griha*.

[30] MB, p. 141.

[31] JA cites others, including the *Devale of Shiva* #2, Polonnaruwa (11 C.); and the *Thuparama*, Polonnaruwa (12 C.); MB also cites the *Gedige*, Nalanda as well as those mentioned by JA, pp. 139-141.

[32] This figure indicates the that there may be lesser possibilities of a forty-nine and twenty-five *pada mandala*.

[33] Computer drawn from HS I, pp. 5, 152-153. It is to be noted that the ensemble is shown against a grid of fourteen by twenty-one *pada*. These are doubled to indicate the *mandala* grid of the *garbha-griha*, thereby creating a grid of twenty-eight by forty-two *pada*.

[34] The bold case letter(s) refer to those found in **Plate 25**.

[35] Refer to **Plate 10**, a detailed plan of this *garbha-griha*.

[36] Refer to **Plate 11**, a detailed plan of these ancillary shrines.

[37] Cf. fn. 12.

[38] HS, p. 105.

[39] FWB II, p. 268.

[40] *Ibid.*, p. 227-228.

[41] The *Diwan-i-khas* (1570) and the *House of Raja Birbal* (1569) at Fathepur Sikri, *Humayun's Tomb* (1565) at Delhi (See: **Appendix A, Plate 103**), the *Taj Mahal* at Agra and *I'timad-ud-daula's Tomb* (1628) also at Agra, all utilize the square as the beginning point in their architectural design.

[42] The early monolithic or subtractive architectural monuments--such as at Karli, Bedsa, Kondane and Ajanta--probably had served as precedence for this natural phenomena.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Indonesia

(Java)

Borobudur, Java
Borobudur (elevation), Java
Borobudur (level designation), Java
Borobudur (half plan indicating circular *Manduka Mandala* and *Paramasayika Mandala*), Java
Chandi Lumbung, Prambanan, Java
Chandi Sewu, Prambanan, Java
Chandi Sewu (principle shrine), Prambanan, Java
Loro Jonggrang, Prambanan, Java
Chandi Sari, Prambanan, Java
Chandi Djago, Malang, Java
Chandi Panataran Sanctuary, Kediri, Java

The islands of present day Indonesia--particularly Sumatera, Java and Bali--with their rich culture heritage, are brilliant jewels in the crown of human achievement. The central gem, Java, is of prime archeological and cultural significance. In the recent past, the importance of this area revolved around the economic, imperialistic traditions of the European states. Certainly the myriad spices that come from this area were, in the eighteenth, nineteenth and early twentieth century, of major economic and political importance.

Yet two names, two locales in south-central Java, shine more brilliantly than this island's economic worth in spices--*Borobudur* and the plains at Prambanan. The former is artistically one of the most important Buddhist shrines of mankind. For sheer size and mass, *Borobudur* is frequently referred to as the largest stone structure of the Common Era, eclipsed only by the *Pyramids of Gizah*, Before the Common Era. The plains of Prambanan, a few score miles east of *Borobudur*, is second only in importance to the latter. This relatively small area around Prambanan presents the world with the Hindu gem *Loro Jonggrang* and the Buddhist *Chandi Sewu* among others. The importance of these structures, in part, lies in their widespread influence within the region, in particular the impact of *Borobudur* on the temple-mounts of the later Khmer Empire. Unfortunately, the histories of Java and Sumatera and to a greater degree their artistic contributions have **not** been dealt with to the extent that their well known northern, regional neighbors have enjoyed--i.e., Pagan of Burma (Myanmar), the Khmer of Cambodia and the kingdoms of Thailand.

Java's early artistic and political debt to India is now well established.[1] However, there appears to be a strong regional quality in their art which when amalgamated with the Indian prototypes produced truly unique structures. The *Brahmanic Sri Vijaya* Kingdom of Sumatera and the *Buddhist Shailendra* Kingdom of Java were two empires whose influence was not isolated to their island nations.[2]

Politically, of course, the various Javanese cultures were kingdoms, however, the reigning monarchs did not appear to have assumed the stellar or celestial importance of the Khmer *devaraj*. Nor, with the exception of the somewhat harsh *Sri Vijayans* of Sumatera, were they possessed with a conquering zeal beyond their natural and/or adjacent borders.

Within the island confines of Java one could observe a microcosm of the area--part Hindu, part

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Buddhist. The Java kingdoms were active from the late Seventh Century through the early Sixteenth Century of the Common Era, ending with the East Java *Madjapahit* Kingdom. Culturally adjacent to the earlier *Shailendras* of Central Java are the contiguous *Shaivite Matarams.* Not only in Central Java, but it appears that throughout the whole island culture Buddhism and Hinduism coexisted in apparent harmony. Later, it is of interest to question why this area was so completely and in a relatively rapid period of time converted to Islam.[3] One possibility may have been the rather inclusive nature of the two former faiths--i.e., *Mahayana Buddhism* and Hinduism both laced with ample amounts of *Tantric* practices--which relied upon rather esoteric practices. Even today, Indonesia's practice of Islam appears to mirror its historical acceptance of other faiths, side-by-side in easy harmony.

With the complete lifting of the veil, the kingdoms of Java will certainly come to be recognized as cultures which have added immensely to the rich tapestry of mankind, not only in southeast Asia, but throughout the world.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Borobudur

Java, c. 760-830 CE

Borobudur is a *mandala*, a *mandala* of immense size, scope and complexity. Constructed in the latter half of the Eighth Century and the first third of the Ninth Century of the Common Era, it exemplifies the fervor and devoutness of those who partook in its physical construction, the rulers who instigated and financed its erection, and the artisans who employed their formidable manual skills. In sheer size and mass, it is second to none as a religious monument raised in the Common Era. Its superb, magnificent sculptural ensemble is, likewise, second to none.[4]

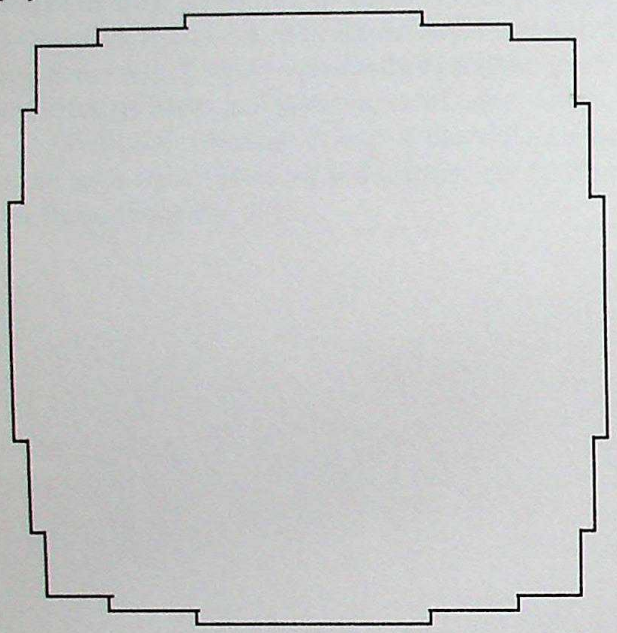


Figure 50: *Borobudur,* Level I plan

Borobudur's considerable legacy is to be found in its concept, its content, as well as its level of aesthetic excellence. This grand, massive monument is not particularly noted for its innovative or daring engineering techniques. Although for sheer mass, this aspect cannot be totally discounted. Solid construction as well as the post and lintel dominate its technical framework, tried and true techniques, nothing novel. The arch and vault were not employed except in the *dagabas*, yet certainly the artisans would have known of the arch, but the builders eschewed its use--much in the same way as did the Greeks centuries before. *Borobudur* was meant to be a sublime religious statement, a paean to the devotion of the faithful following tried and true methods of the faith.

The monument consists of a series of terraces, decreasing in size as they proceed upward. All the levels lead to the central *stupa* on the uppermost terrace, a apt climax of aesthetic and religious content.

The first five terraces are rectilinear in shape. There is a lower terrace representing *Kamadhatu* which had been covered during the construction by a massive retaining terrace to prevent the impending collapse that had threatened the monument early on (See: **Plate 29**). The first, bottommost terrace, **Level I**,[5] derives its form from the Hindu *pancharatha* temple plan (See: **Figure 50**; see also: **Figure 14**). As the terraces mount one upon the next, the *pancharatha* proportions diminish until the fifth terrace, **Level V**, assumes the form of a *triratha* (See: **Figure 51**). The terraces consist of a walkway or gallery with an outer wall covered with various sculptural panels and surmounted by a series of seated Buddha images set in niches and all facing outwards. The inner wall, of the gallery is also emblazoned with sculptural relief until the fifth terrace, **Level V**. This terrace does not posses a sculpted inner wall but gives way to the round[6] sixth terrace, **Level VI**, with its series of *stupas* (Indon: *dagabas*). These five terraces represent *Rupadhatu*.

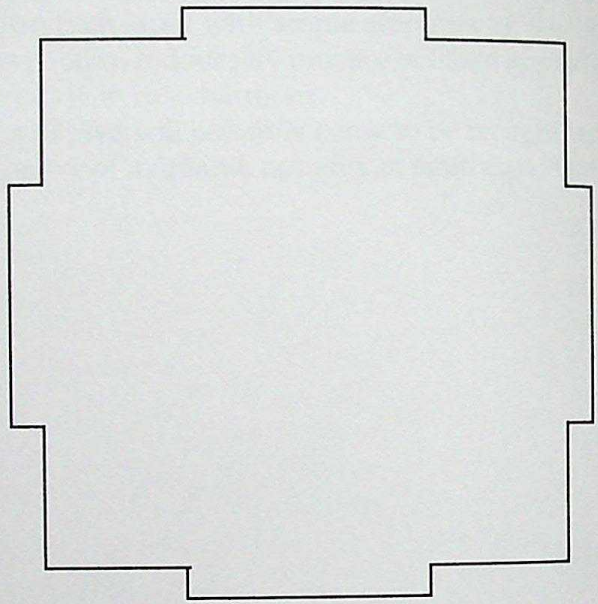


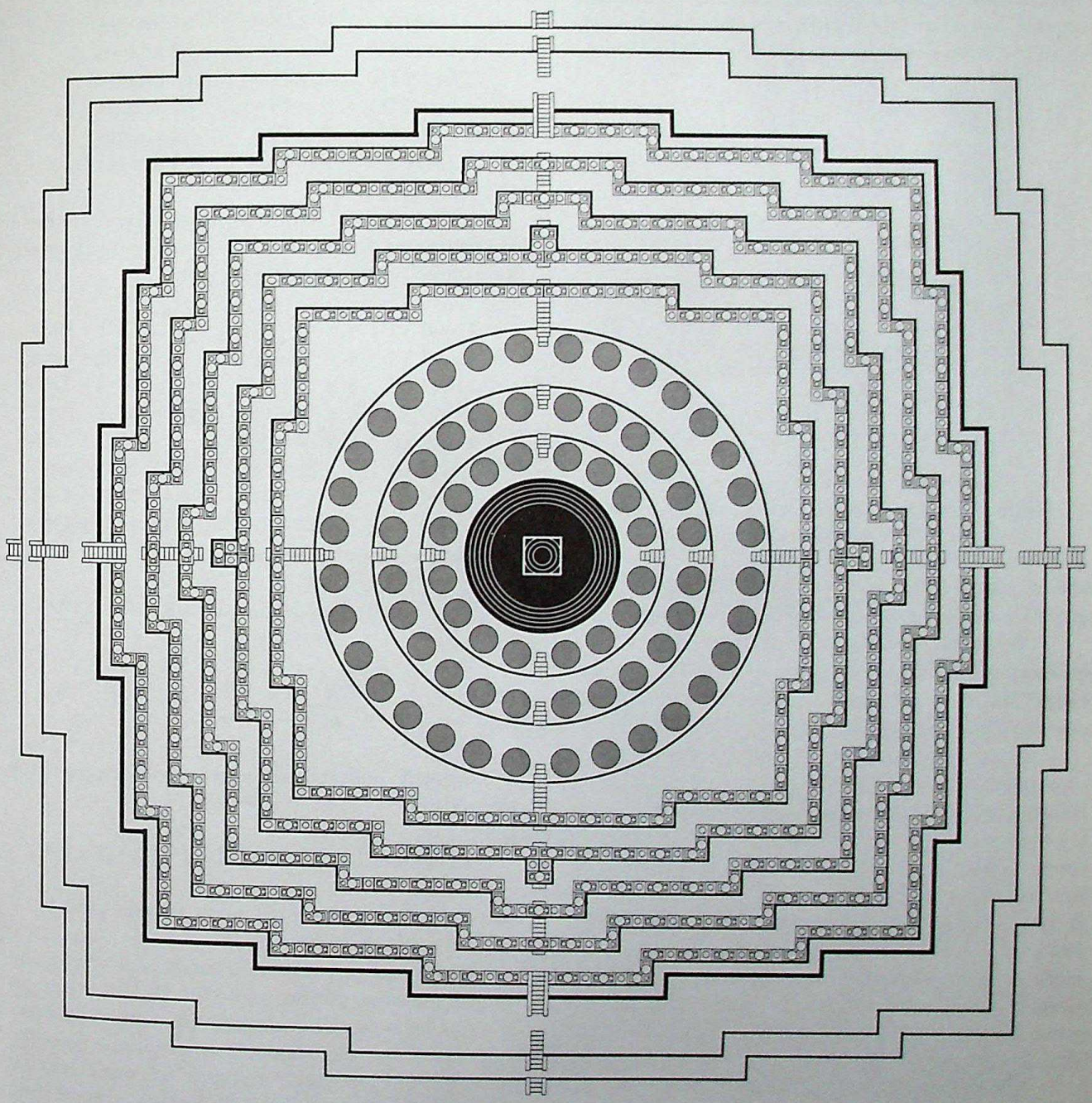
Figure 51: *Borobudur,* Level V plan

The top three terraces--i.e., **Levels VI, VII** and **VIII**-- represent the *Arupadhatu*. On them are placed a series of *dagabas* (*stupas*) with lattice-like openings and containing a seated Buddha image within the hollow *anda*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 28 -- *Borobudur*



North >>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The sixth and seventh terraces, **Levels VI & VII** (See: **Plate 29**), hold *dagabas* whose *andas* are pierced with diamond-shaped openings and crowned with a square *harmika*. The eighth terrace, **Level VIII**, displays *dagabas* with square openings in their *andas*,

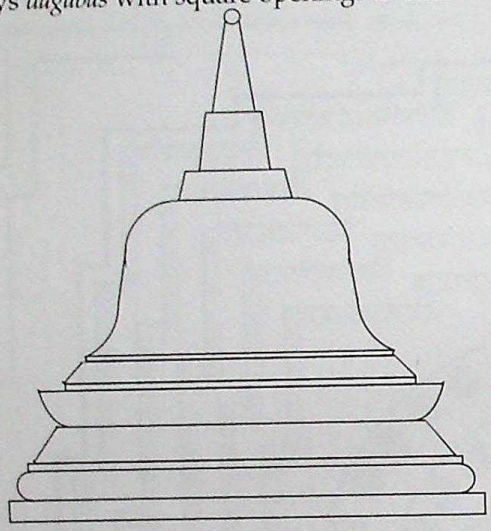


Figure 52: *Borobudur, dagaba* proportion and shape (shown without the lattice-like openings)

and octagonal *harmikas*. The *dagabas* of **Levels VI, VII** and **VIII** are all the same proportion (See: **Figure 52**).

The whole is crowned by a large *stupa* with a bell-shaped *anda* mounted on a drum-base (See: **Figure 54**). It is the crown, the locus, the spiritual center of this three dimensional *mandala*.

Numbers (numerology) appears to play an important role in *Borobudur*. The afore mentioned Buddha images (1.06 m. high) set within their niches lay the foundation for this concern. They appears as sentinels on the five-levelled sacred enclosure. The first terrace, as well as the second terrace, **Levels I & II**, hold one-hundred-four images each (See: **Plates 29 & 30**). The third terrace, **Level III**, contains eighty-eight images, while the fourth terrace, **Level IV**, possesses seventy two. The fifth and final terrace which make up the sacred enclosure holds fifty-four Buddha images.

The significance of these Buddha images becomes important when their numbers are considered as products of multiplication, addition or reduction. The numeral eight appears again and again, and, therefore, becomes most important. The Lama Anagarika Govinda sees *Borobudur* as being based upon the "Eight-fold Path" of Buddhism.[7]

Level VIII	8 x 2 =	16 images
Level VII	8 x 3 =	24 images
Level VI	8 x 4 =	32 images
Level V	8 x 8 =	64 images
Level IV	8 x 9 =	72 images
Level III	8 x 11 =	88 images
Level II	8 x 13 =	104 images
Level I	8 x 13 =	104 images
Total	8 x 63 =	504 images

We see that eight predominates. If these numbers are reduced[8] and added, one is again confronted with the numeral eight:

Level VIII	8 x 2 = *16*		1 + 6 = 7
Level VII	8 x 3 = *24*		2 + 4 = 6
Level VI	8 x 4 = *32*		3 + 2 = 5
Level V	8 x 8 = *64*	6 + 4 = 10	1 + 0 = 1
Level IV	8 x 9 = *72*		7 + 2 = 9
Level III	8 x 11 = *88*	8 + 8 = 16	1 + 6 = 7
Level II	8 x 13 = *104*	10 + 4 = 14	1 + 4 = 5
Level I	8 x 13 = *104*	10 + 4 = 14	1 + 4 = 5
Total	8 x 63 = *504*		45

The two sums--i.e., 504 and 45 are both further reduced:

504 5 + 4 = 9
45 4 + 5 = 9

Level V with its sixty-four images arrives at the integer one.

Level V	8 x 8 = *64*	6 + 4 = *10*	1 + 0 = 1

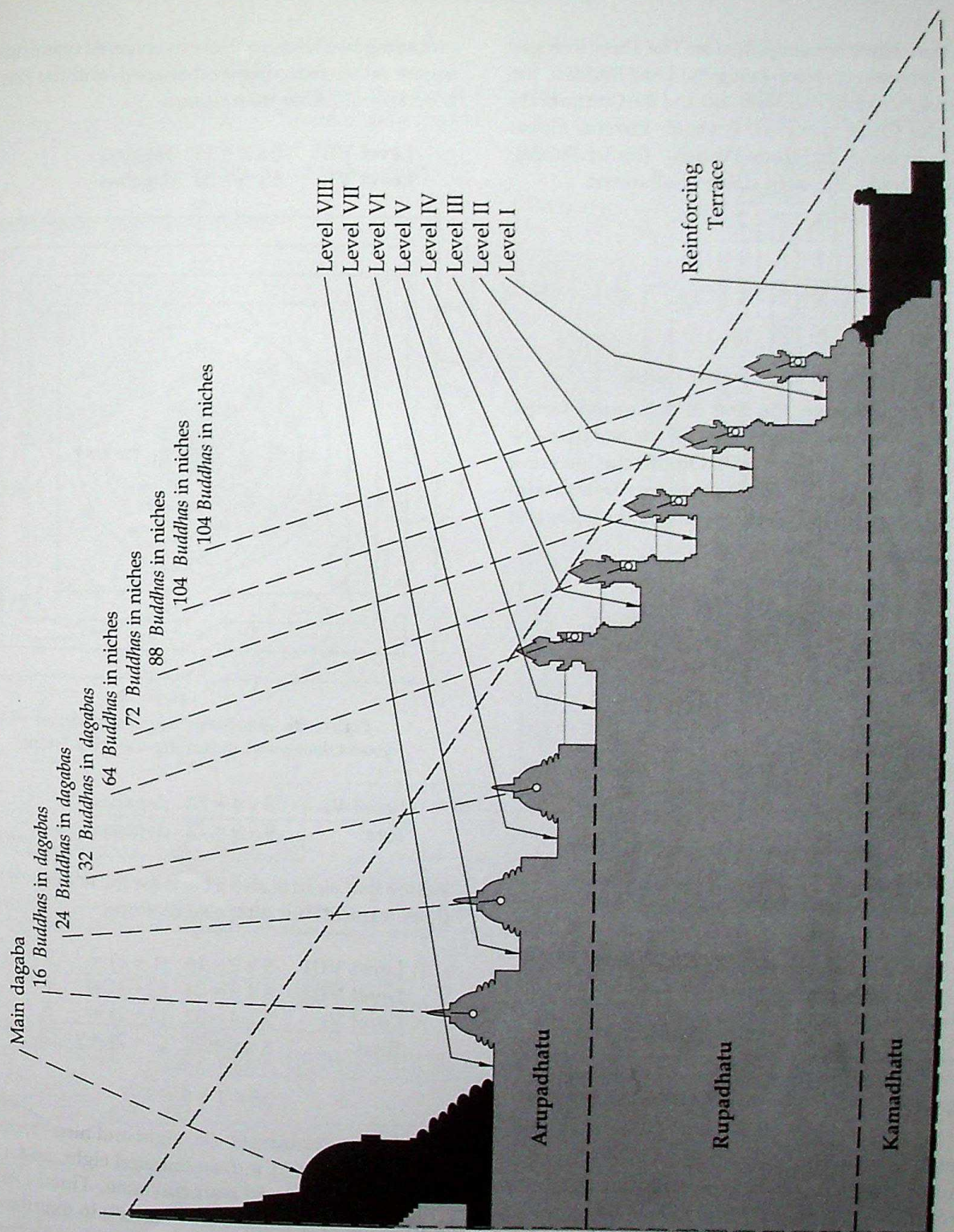
Not only does this level fit neatly into the plan, but it also presages the upper levels.

The three upper, round terraces, likewise fall within the same pattern as do the *Buddha* images of the five-level sacred enclosure. Eight again becomes important, however another numeral emerges--the number nine. Nine is a number which represents the number of *pada* in the smallest magic square (See: **Figure 53**); and the *Navagrahas*. The square root of nine, as stated, is three, therefore, three also becomes important. It is the number perfection and represents the divine family (father, mother, child). It is constituted by unity plus diversity which equals

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 29 -- Section, *Borobudur*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

perfection. Three is exemplified in: The Three Refuges of the *Theravada* tradition being the Lord Buddha, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); *Brahmá, Vishnu, Shiva; trishula; Tripitaka;* the Three Worlds (Indic: *Triloka*); and the triangle, the most stable of all forms.

6	7	2	15
1	5	9	15
8	3	4	15
15	15	15	

Figure 53: Magic Square (*Surya*)

The sixth terrace, the first of the round forms, announces the most sacred area of the *mandala*--the central *stupa* (See: **Plates 6 & 7**). On this the lowest of the three circular terraces rests thirty two *dagabas* with diamond-shaped, lattice-like piercing of the *andas* and

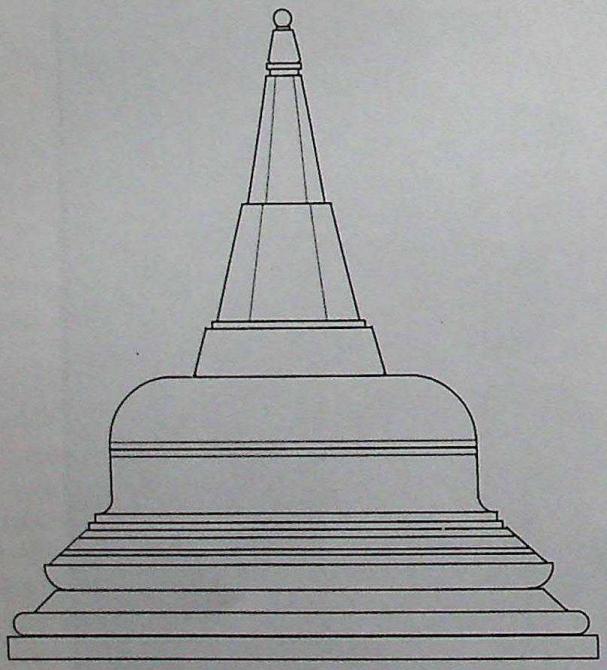


Figure 54: *Borobudur,* proportion and outline of main *stupa*

rectangular *harmikas*. These *dagabas*, each containing an image of Buddha facing outwards, number thirty-two. Similarly, the next terrace, **Level VII**, possesses twenty-four *dagabas* of a similar design to those of the preceding level. Finally, the uppermost circular terrace, **Level VIII** holds sixteen *dagabas*, of a significantly different design from those of the preceding two terraces. Here the pierced openings are square rather than diamond-shaped, and the *harmika* is octagonal rather than square.

Level VIII 8 x 2 = 16 dagabas
Level VII 8 x 3 = 24 dagabas

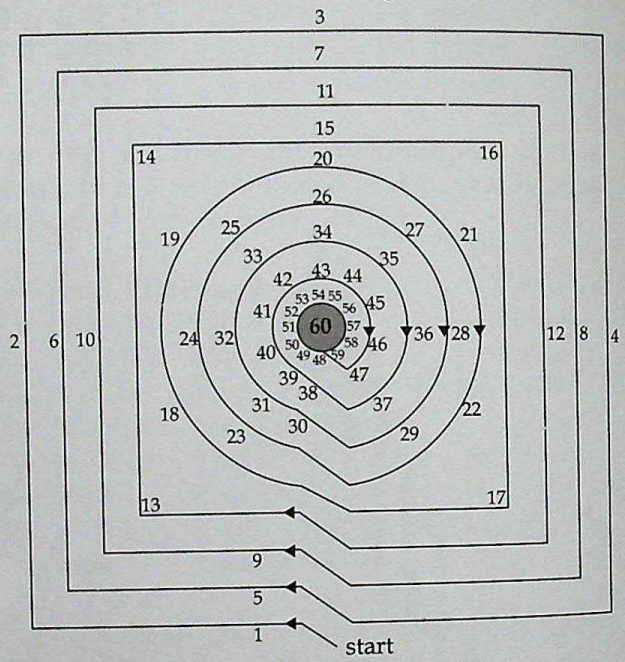


Figure 55: *Borobudur,*[9] *circumambulation* (*pradakshinapatha*) indicating the sixty "steps"

Level VI	8 x 4 = 32	dagabas
Total	8 x 9 = 72	dagabas

We see that eight is also a basis for the *dagabas* of these three terraces, but nine also emerges.

Level VIII	8 x 2 = 16	(1 + 6) =	7
Level VII	8 x 3 = 24	(2 + 4) =	6
Level VI	8 x 4 = 32	(3 + 2) =	5
Total	8 x 9 = 72	(7 + 2) = 9	18

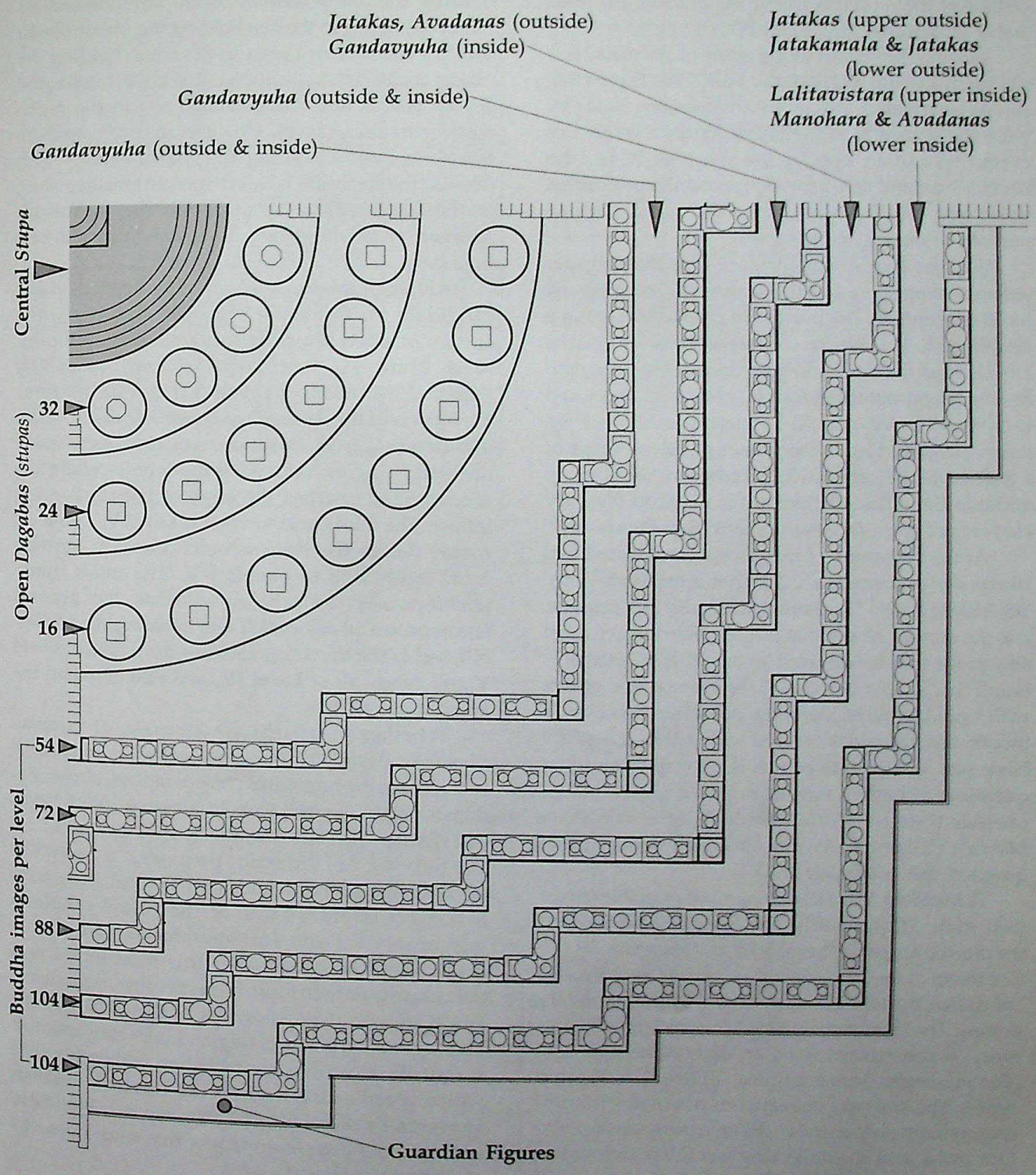
18 = 1 + 8 = 9

The two numerals--i.e., eight and nine--represent a female number, the even numeral eight, and a male number, the uneven numeral nine. This is further buttressed by three, the √ of nine (9) in that there are three major divisions in *Borobudur*--i.e., 1) the five terraces of the sacred enclosure, 2) the three upper round terraces and 3) the ultimate, large *stupa*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 30 -- *Borobudur* (level designation) (base not included)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

surmounting the whole. Finally, the general sectional outline of the mount is triangular in form, the most stable of all forms (See: **Plate 29**).

Finally, the surmounting *stupa* of no mean size sits upon a drum-like, circular base (See: **Figure 54**). As has been stated, the circle is to *Mahayana Buddhism* what the square is to the Hindu faith--a symbol of perfection and an icon for the spiritual. It--i.e., the circular base and the *stupa*--represents the unfinished (form and formlessness), the *Adi-Buddha*, the one without beginning, without end.

All, the five lower terraces, the three upper terraces, main *stupa* and the sculptural ensemble are multi-conceptual. The process of *pradakshina* is not a simple task. Due to the double tiers of sculptural ensemble on the inner and outer face of level one, and the inner and outer friezes on levels two, three and four--these levels should be circumambulated ten times. Ten, referring to the phases of the existence of a *Bodhisattva*, becomes an important consideration. In addition the whole of Borobudur refers to the sixty elements of spiritual development (See: **Figure 55**).[10]

At the beginning of this section, it is stated that "*Borobudur* is a *mandala*. . . ." That appears obvious. Yet, Miksic states, "To classify *Borobudur* as a *mandala*, it is not enough to say that it looks like one; we must also prove that it was used as one."[11] If an animal is found that is: cold blooded, lives in the water, swims with undulations of the body, possesses two eyes, a mouth, fins, tail and is covered with scales--it is a fish! Now, just what specie of fish is altogether an other question. Whether Borobudur is a *Dharmadhatu Mandala* ("Matrix World *Mandala*") or a *Vajradhatu Mandala* ("Diamond World *Mandala*") is the salient question. But, a *mandala* it is.

A *Manduka Mandala* appears to be a viable choice (See: **Plate 31**, [top left]). The *Brahmásthana* protects the pierced stupas of **Level VIII** and the main *dagaba*. The realm of the inner deities involves **Level VI**, and , of course, the whole is surrounded by the secondary deities. The *Dharmadhatu Mandala*, which emphasizes nine, is constructed from an eighty-one *pada* grid (*Paramashayika Mandala*) (See: **Plates 4 & 31**, [top right]). The *Brahmásthana* contains nine *padas*, the next ring contains sixteen *padas*, the next possesses twenty-four *padas*, and the outer ring has thirty-two *padas*--refer to **Levels VI, VII & VIII** where the number of *dagabas* correspond. The *Vajradhatu Mandala*, which emphasizes five, indicates *Vairochana* at the center holding the *dharmachakra mudra* surrounded by *Akshobhya* sitting in the east holding the *bhumisparsha mudra*, *Ratnasambhava* rests in the south holding the *varada mudra*, while *Amitabha* of the west holds the *dhyana mudra*, and *Amoghasiddhi* sits in the north holding the *abhaya mudra*. However, at *Borobudur* there is a sixth *Buddha* holding the *vitarka mudra*! Is it possible the *Borobudur* is based upon an amalgamation of the *Dharmadhatu Mandala* and the *Vajradhatu Mandala*, or an altogether different *mandala* devised in Java?

Although the *Paramashayika Mandala* is a viable candidate for *Borobudur's* plan design basis, the circular *Manduka Mandala* also is eminently applicable (See: **Plate 31**, [bottom]). In both cases the *Brahmásthana* involves **Levels VII & VIII**, however the corners of the *Paramashayika Mandala* also extends into **Levels V & VI**. In the circular *Manduka Mandala* the outer ring encompasses the whole, while the second band touches the edge of the reinforcing terrace. The third circle surrounds **Level V**. Due to its square design the *Paramashayika Mandala* appears more applicable to **Levels I-V**. The outer limits encompasses the whole, whereas the second encompasses all of **Level II** and avoiding the *marmas* of **Level I**. The third ring encloses the whole of **Level V** and nearly all of **Level IV**, and also avoiding the appropriate *marmas*.

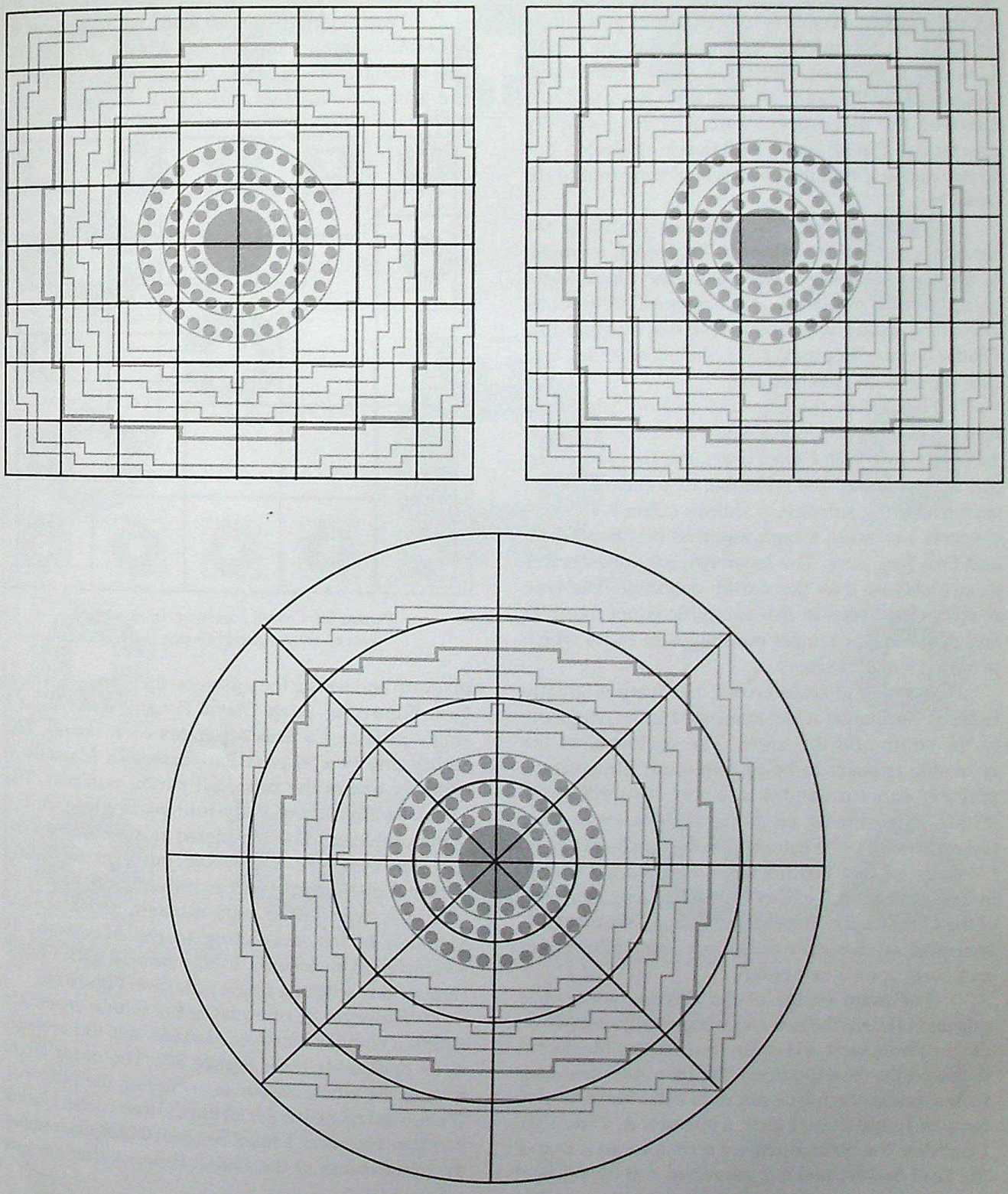
Whether *Paramashayika Mandala*, or circular *Manduka Mandala*, or some other *mandala*, in considering the numerical considerations, above, the number eight appears to hold a certain precedence. The circular *Manduka Mandala* is eight centered.

Serving a didactic purpose, a worship (*pradakshina*) function and a theological statement, *Borobudur* is indeed one of the prime religious monuments of man's accomplishments. Just what is the conceptual genesis for this monument is a delicious mystery. In form, there are other monuments which are akin (See: **Appendix A, Plates 105 & 106**). Like any masterpieces of human kind's conception, it is visually accessible, readable and comprehensible which is appealing even to the most uninitiated. However, intellectually, conceptually it is incredibly complex, posing conundrums that may never be completely answered.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 31 -- *Borobudur,* indicating *Manduka Mandala* [top left], *Paramashayika Mandala* [top right], and circular *Manduka Mandala* [bottom])



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chandi Lumbung

Prambanan, a. 782 CE

(JF, AP)

A short distance north of the *Loro Jonggrang* is the smaller and older *Chandi Lumbung*, a. 782 CE.[12] Of the various ensembles both Buddhist and Hindu to be found on the plain of Prambanan, the *Chandi Lumbung* is the least developed architecturally and unfortunately the least restored. It sits in virtual ruin between the magnificent *Loro Jonggrang* and the spectacular *Chandi Sewu*, doubtlessly neglected due to its relative diminutive size when compared to the other two.

The cross-axial ensemble is oriented to the cardinal points of the compass. *En forme* it is similar to the *Loro Jonggrang* as well as to the *Chandi Sewu* complex to its north--i.e., it is composed of an outer enclosure within which is a series of surrounding *Chandi Perwara*, sixteen in total, and at the center, on a raised plinth, the main shrine.

The age of the *Chandi Lumbung* places its construction during the same time as that of *Borobudur* and preceding both *Chandi Sewu* and *Loro Jonggrang*. The arrangement, the ensemble of a central shrine surrounded by subsidiary shrines (*Chandi Perwara*) suggests a *mandala*, a form followed by *Chandi Sewu* and *Loro Jonggrang*. The latter two are considerably more elaborate than this earlier ensemble. The type of elaboration seen in this ensemble is not found in any of the major temple ensembles of India which predate *Chandi Lumbung*.

In size and scale *Chandi Lumbung* is greatly reduced--elemental when compared to its neighbors to the south and the north. The enclosure of the ensemble appears to be of minimum dimensions, probably only surrounded by a very low girdle-wall. Within its perimeter are found sixteen, cross-axial *Chandi Perwaras*. The entrances of the *chandis* of *Chandi Lumbung* all face inward towards the main shrine, unlike the *Chandi Perwaras* of the *Loro Jonggrang* and of the *Chandi Sewu*. The sixteen *Chandi Perwara* of this ensemble are basically of the *pancharatha* form and each rests upon a low plinth.

The main shrine of the *Chandi Lumbung* is oriented towards the east and is essentially cross-axial. On the north, west and south faces, where the door is found on the corresponding east face, are three deep niches, one on each face, not unlike the "three alcove" temples found in Java (See: **Appendix A, Plate 104**). Doubtless the main sanctuary contained an image of the Lord *Buddha*, and it is suspected that the cellas of the *Chandi Perwara* may have contained images of the Lord *Buddha*, or *Bodhisattvas* and *Dhyani Buddhas*.

There are three *mandala* grids which appear to be viable considerations for this temple group. The total ensemble can be neatly placed within an eighty-one *pada Paramashayika Mandala*, excluding the

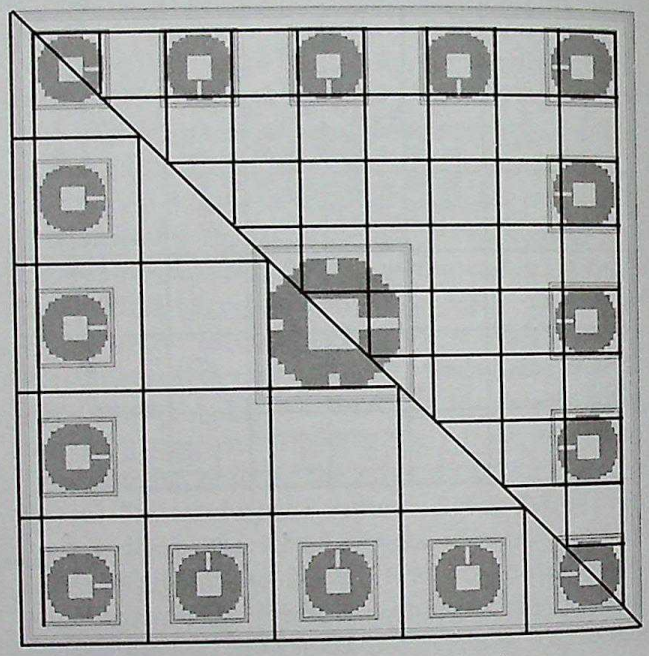


Figure 56: *Chnadi Lumbung*, indicating a twenty-five and eighty-one *pada* grid

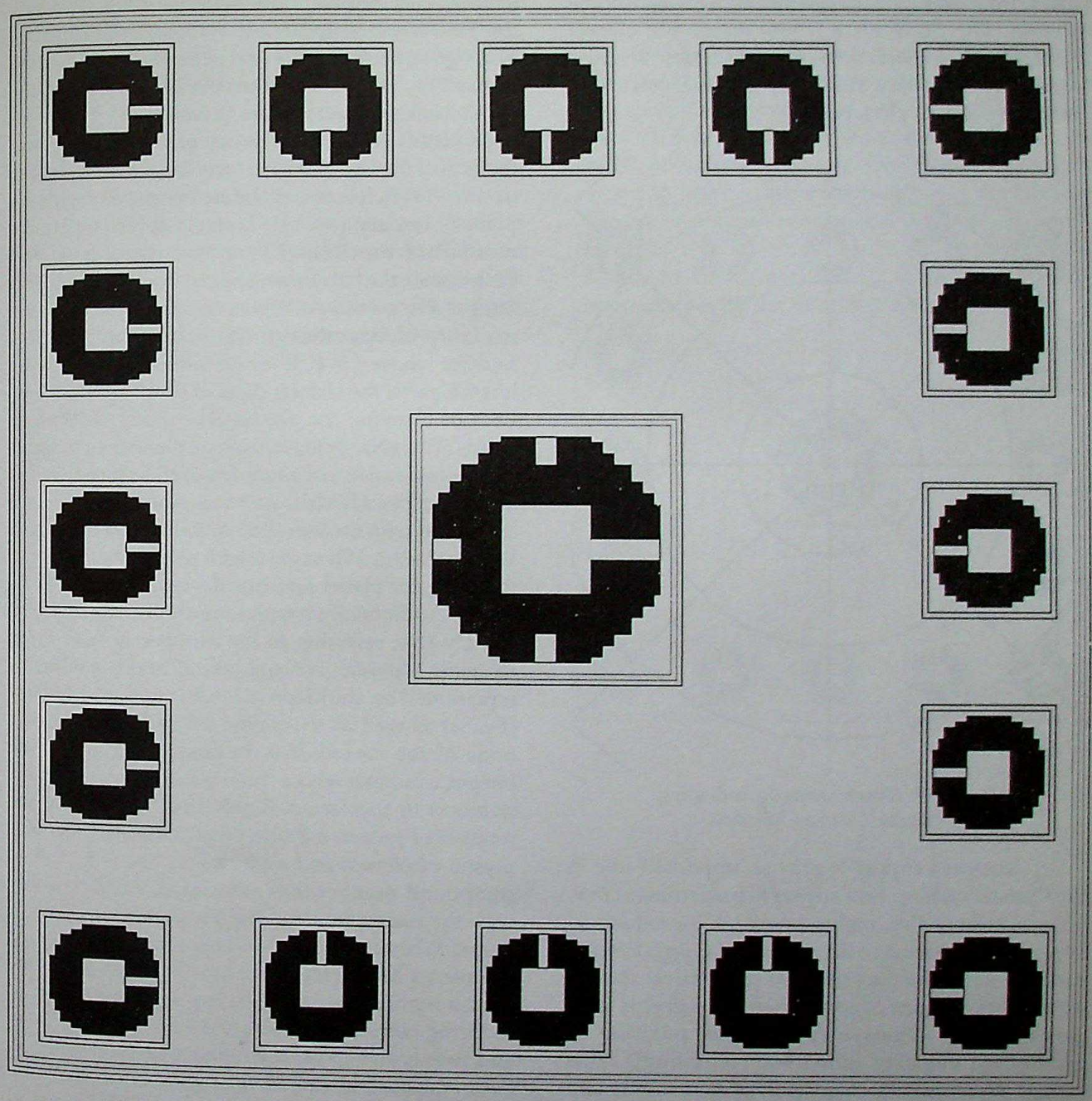
platform and basing the square on the *Chandi Perwaras* (See: **Figure 56**). Each *Chandi Perwara* sets within a single *pada* and a *pada* separates each *chandi*. The eighty-one (9 x 9) *pada Paramashayika Mandala* is certainly one of the preferred Hindu *mandalas*. The *Manduka Mandala* of sixty-four pada presents too many problems to be considered as a *mandala* for the complete ensemble. The whole, however, including the outer platform, can just as conveniently be placed within a twenty-five *pada mandala*, the *Upapitha Mandala* which, according to the *Mayamata*, is conducive to enclosures. In this *mandala* each *Chandi Perwara* sets within a single *pada* (See: **Figure 56**).

However, if one places the whole ensemble within a circular *Manduka Mandala*, this too appears to be applicable (See: **Figure 57**). The outer circle encases the whole ensemble, including the platform. The second ring encircles all but the four corner *Chandi Perwaras*. However, it must be noted that it just touches the outer corner of the *Chandi Perwaras* that are just

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 32 -- *Chandi Lumbung* Ensemble



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

inside the corner *chandi*, thus containing twelve of the sixteen. The third circle is just inside the *Chandi Perwaras*--that space between the sixteen and the sanctuary--whereas, the inner circle protects the sanctuary and its platform.

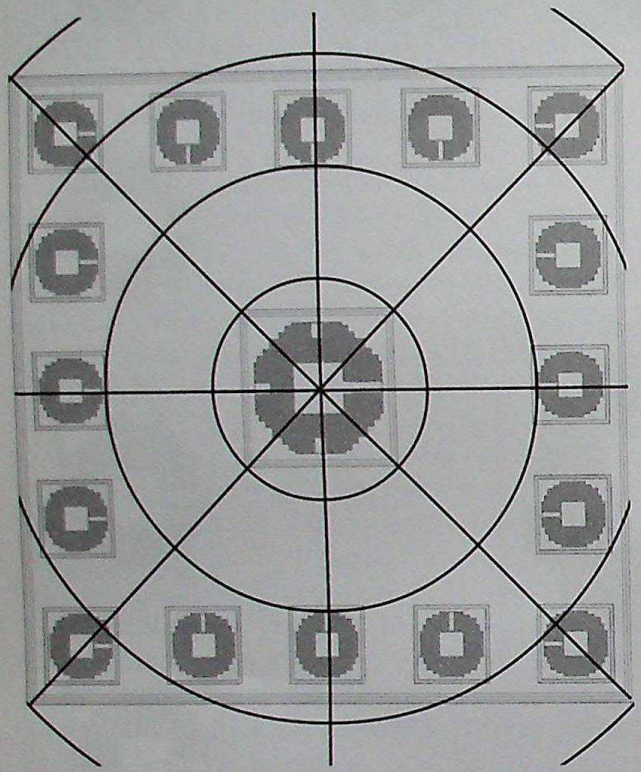


Figure 57: *Chandi Lumbung*, indicating circular *Manduka Mandala*

Numbers appear to play an important role in the *Chandi Lumbung*. Five appear to predominate: five, sixteen, twenty-five, eighty-one, and, by reduction, seven. Five, referring to the number of *Chandi Perwara* on each side, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Sixteen, referring to the number of the *Chandi Perwaras*, denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness), or balance being made up of opposites--the Sun and Venus. It is a number whose √ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called the *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*. Twenty-five, referring to the number of *pada* in an *Upapitha Mandala*, is a compound number which is represented by: the Moon (*Chandra* or *Soma*), Mercury (*Budha*) as well as the planet *Ketu* (the descending node of the moon); it is an auspicious masculine integer, a number whose √ is 5, the sum of mystic male numbers in succession. Eighty-one, referring to the number of *pada* in a *Paramashayika Mandala*, denotes mystic wholeness and a number whose √ is 9. As a compound number it is associated astronomically with the planet Saturn (*Shani*) and the Sun (*Ravi* or *Surya*). When reduced it produces nine and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*). One further number appears to be of some significance. In reducing both the numbers sixteen (*Chandi Perwara*) and twenty-five (*pada*) the number seven is reached. Seven denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon ($4 \times 7 = 28$); the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon).

Chandi Lumbung certainly compliments the two later and larger ensemble to the south and the north--i.e., *Loro Jonggrang* and *Chandi Sewu*. The layout of this ensemble appears to have maximized in the later two groups. However, its size and scale is more closely associated to the human scale. A scale that can be easily assimilated visually. One may say that it is meant to inspire rather than over awe the devotee. The larger complexes, as beautiful as they are, have a tendency to astonish, to amaze and to dazzle. This does not denigrate *Chandi Lumbung's* cosmic importance with the Buddhist faith.[13]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

inside the corner *chandi*, thus containing twelve of the sixteen. The third circle is just inside the *Chandi Perwaras*--that space between the sixteen and the sanctuary--whereas, the inner circle protects the sanctuary and its platform.

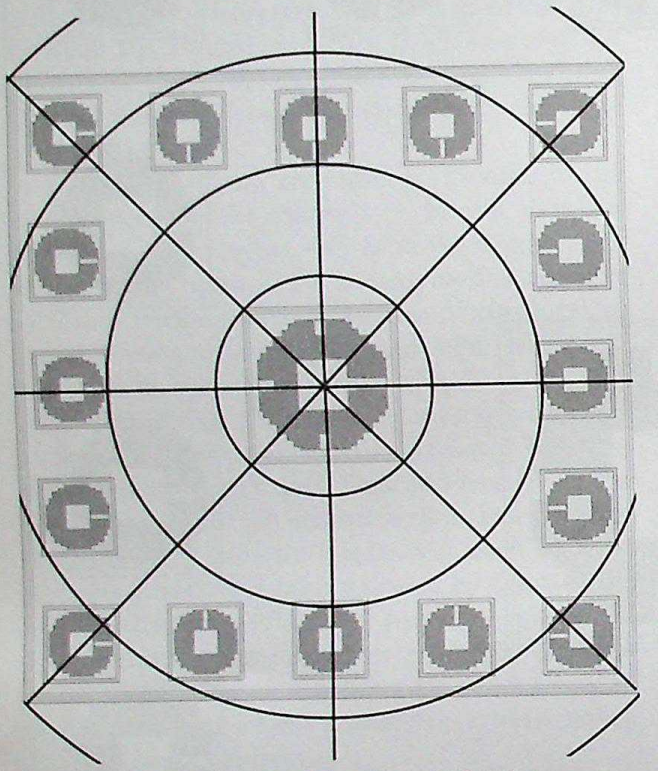


Figure 57: *Chandi Lumbung*, indicating circular *Manduka Mandala*

Numbers appear to play an important role in the *Chandi Lumbung*. Five appear to predominate: five, sixteen, twenty-five, eighty-one, and, by reduction, seven. Five, referring to the number of *Chandi Perwara* on each side, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Sixteen, referring to the number of the *Chandi Perwaras*, denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness), or balance being made up of opposites--the Sun and Venus. It is a number whose √ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called the *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*. Twenty-five, referring to the number of *pada* in an *Upapitha Mandala*, is a compound number which is represented by: the Moon (*Chandra* or *Soma*), Mercury (*Budha*) as well as the planet *Ketu* (the descending node of the moon); it is an auspicious masculine integer, a number whose √ is 5, the sum of mystic male numbers in succession. Eighty-one, referring to the number of *pada* in a *Paramashayika Mandala*, denotes mystic wholeness and a number whose √ is 9. As a compound number it is associated astronomically with the planet Saturn (*Shani*) and the Sun (*Ravi* or *Surya*). When reduced it produces nine and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*). One further number appears to be of some significance. In reducing both the numbers sixteen (*Chandi Perwara*) and twenty-five (*pada*) the number seven is reached. Seven denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon ($4 \times 7 = 28$); the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon).

Chandi Lumbung certainly compliments the two later and larger ensemble to the south and the north--i.e., *Loro Jonggrang* and *Chandi Sewu*. The layout of this ensemble appears to have maximized in the later two groups. However, its size and scale is more closely associated to the human scale. A scale that can be easily assimilated visually. One may say that it is meant to inspire rather than over awe the devotee. The larger complexes, as beautiful as they are, have a tendency to astonish, to amaze and to dazzle. This does not denigrate *Chandi Lumbung's* cosmic importance with the Buddhist faith.[13]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chandi Sewu

Prambanan, Java, a. 792[14] CE

(JF, JA, PR, AP)

A short distance north of the *Chandi Lumbung*, is the impressive *Chandi Sewu* (aka *Chandi Sevu*) known as the "Temple of the Thousand *Buddhas*." In scope it is larger and more complex than its neighbor to the immediate south. It is a most important monument for a number of reasons, the least of which is that *Chandi Sewu* is a major Buddhist shrine. This shrine ensemble is paralleled by and in the basic format of its larger, sister complex to the south--the *Loro Jonggrang*. It is the view of a number of scholars that this ensemble represents a *mandala*. If, as some believe, *Chandi Sewu* predates *Loro Jonggrang* by some sixty years, then its plan, its format had certainly influenced this Hindu shrine's plan.

The cross-axial *chandi* ensemble is enclosed by a girdle wall and oriented to the cardinal points of the compass. In the center of each facing wall is an entrance into the inner precincts. Just inside the entrances and flanking them are two guardian figures. These figures guard two groups of surrounding *Chandi Perwaras* (See: **Appendix A, Plate 111**). The first, two rows consist of a total of one-hundred-sixty *chandi*--eighty-four in the outer enclosing row and seventy-six in the inner surrounding row. This has been designated as the "first court"[15] (See: **Figure 58**). It is to be noted that whereas the entrances of the *chandi* of the outer row of the first court face outward, the inner row entrances face inward. Within these outer two rows are two additional rows consisting of seventy two *chandis, en toto*. The first surrounding row consists of forty-four chandis and on a parallel with and within the sixth and seventeenth *chandi* of the outer row. The second enclosing row of this the "second court"[16] possesses twenty-eight *chandis* and is on a parallel with and within the eighth and fifteenth *chandi* of the outer row (See: **Figure 58**). All the entrances of the *chandi* in these two rows face outward. It is to be noted that there is a space between the first and second rows of the second court for an additional enfolding row of *chandis*--i.e., parallel with rows seven and sixteen as indicated in **Figure 58**. The total *Chandi Perwaras* amount to two-hundred-thirty-two.[17] Finally, between the first and second courts on rows four and nineteen are eight platforms which some see as foundations for additional temples.[18] They flank the median of the cardinal points of the compass.

Within the inner row of the *Chandi Perwaras* is the central platform holding the main shrine, the *Chandi Sewu*, which is cross-axial. Of interest, is the fact that *Chandi Sewu* is rectilinear and does not utilize the circle--the sacred form of the Buddhists--but the square which is more appropriate to Hindu monuments and iconography. At the four corners of

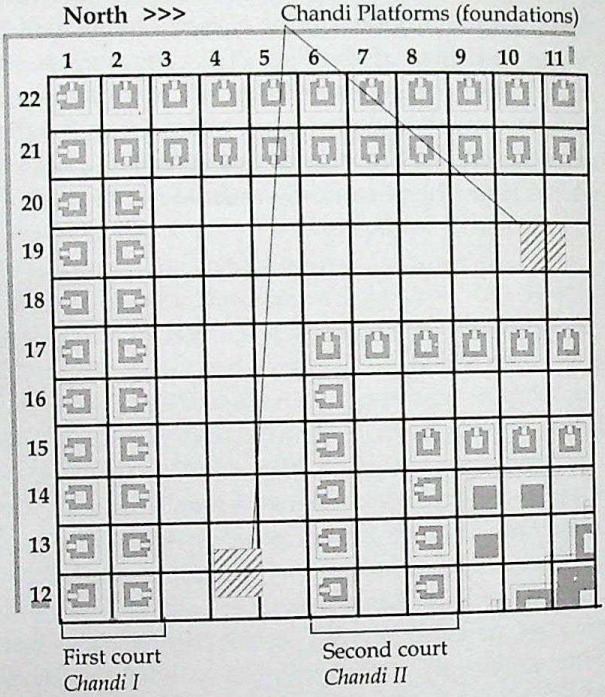


Figure 58: *Chandi Sewu, Chandi Perwara's* plan, south-west quadrant, indicating four-hundred-eighty-four *pada* grid

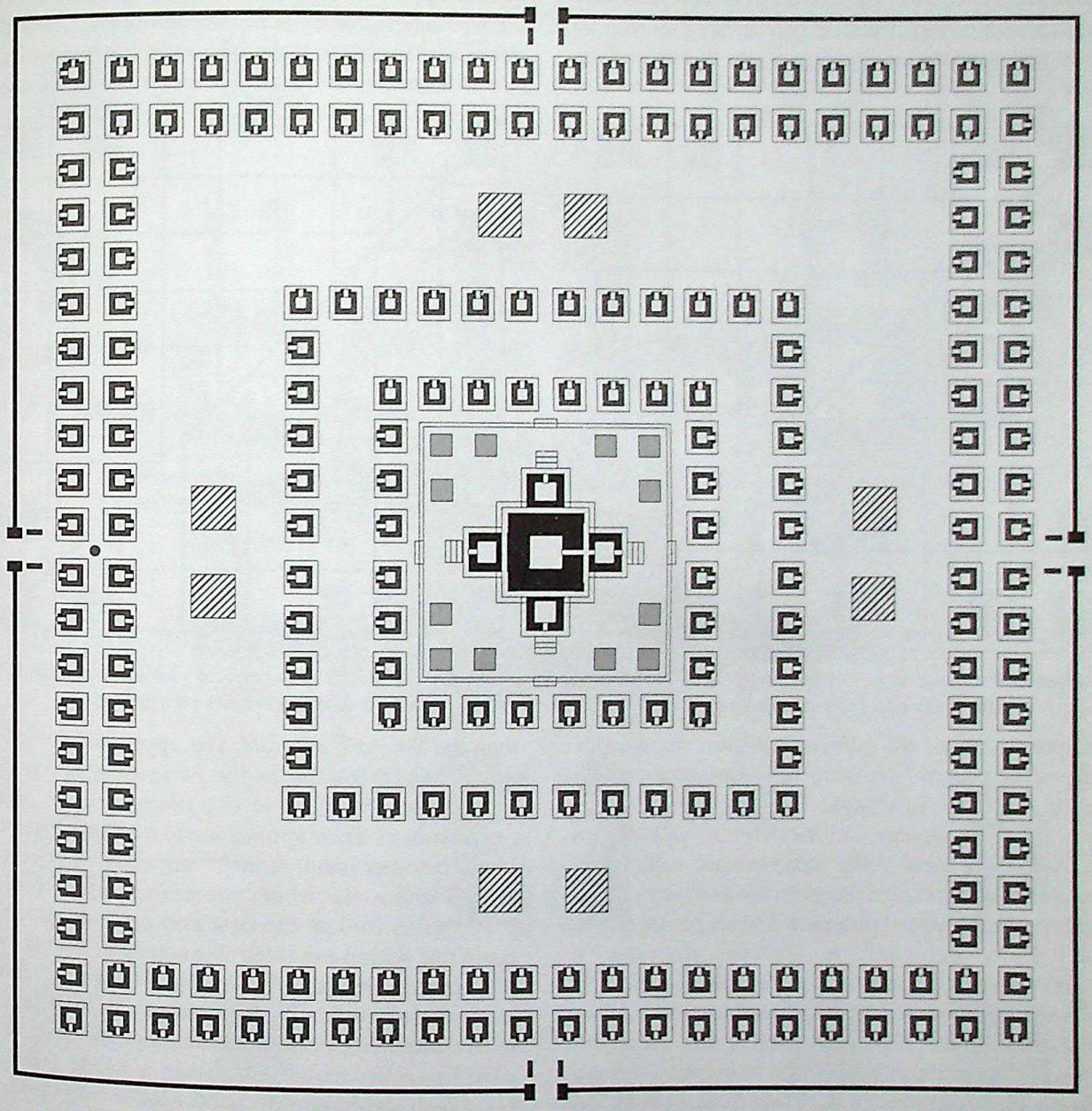
the central platform are three small shrine forms each--twelve *en toto*. The *Chandi Sewu* is considerably different from other Javanese shrines--being more akin to the *Ta Keo*, Angkor (See: **Plate 42**), or, to a lesser extent, to the *Ananda*, Pagan (See: **Plate 57**)--in that the plan appears to be cruciform. *En plan*, the *chandi* is formed by a central block, square with a recess on the north, south and west outer walls, each containing three niches (See: **Plate 34**). The east wall contains the entrance to the central, enclosed shrine. The interior includes a multitiered platform, the uppermost level doubtlessly held a *Buddha* image, since lost. In addition, the central chamber is lit only by the narrow entrance way. It is, indeed a cave, however, man made, that related to numerous Buddhist counterparts--i.e., the *gu* (cave) of Pagan--as well as Hindu precedents--i.e., the *garbha-griha*.

Separated from this central block by four

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 33 -- *Chandi Sewu* Ensemble



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

passageways--one on each face of the main, central block--are four square, attached arms, some times referred to as porches. Each of these wings possesses an entrance from the internal passageway as well as one to the exterior, leading to a flight of descending stairs. These four extensions are oriented to the

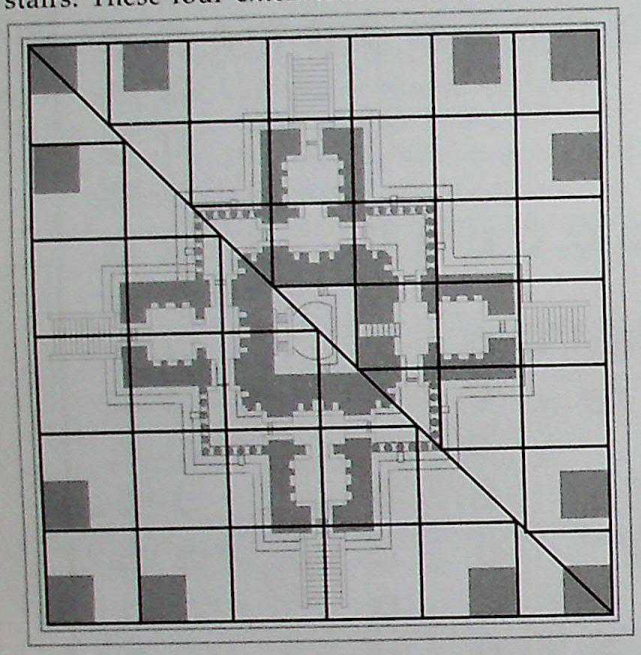


Figure 59: *Chandi Sewu*, central platform indicating thirty-six and forty-nine *pada* grid

cardinal points of the compass. Within the interior space of these "arms" are six niches--three on each wall flanking the two doorways.

The passageway and the exterior walkway, as the main floor area of the structure are sufficiently raised above the level of the platform as to have given a rather uninterrupted prospect. Theses passageways and their external walkways provide a *pradakshinapatha*, which unlike a number of those in India involve the interior as well as the exterior of the *chandi*. In addition, the form of the central cella with its four cardinal chapels is similar in layout to *Chandi Kalasan* (See: **Appendix A, Plate 108**) in that the eastern chapel is also the entrance to the inner shrine and the other three are rather developed in size and importance.

If one considers the whole of the central platform ensemble, a *mandala* of forty-nine *pada*, the *Sthandila Mandala*, appears eminently applicable (See: **Figure 59**). Each of the twelve shrine platforms rest within the three corner *padas* of the intercardinal points. Similarly, a *mandala* of thirty-six *pada*, the *Ugrapitha Mandala*, also applies, but is less satisfactory. If one applies either the *Manduka Mandala* or the *Paramashayika Mandala* to this ensemble, only the *Manduka Mandala* appears to be a viable consideration (See: **Figure 60**). However, this, too, is less satisfactory

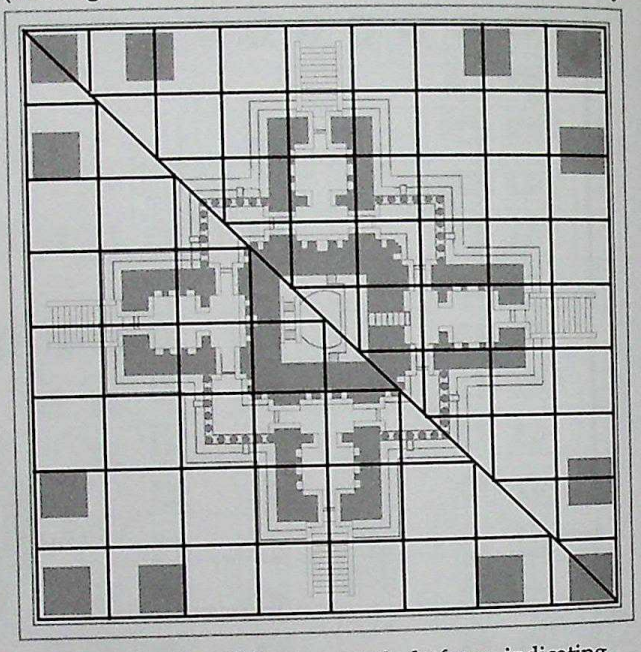


Figure 60: *Chandi Sewu*, central platform, indicating a sixty-four and eighty-one *pada* grid

than the *Sthandila Mandala*. The application of either the *Manduka Mandala* or the *Paramashayika Mandala* to an ensemble plan is not necessarily a major consideration. Their application to a temple unit plan is, on the other hand, of major importance.

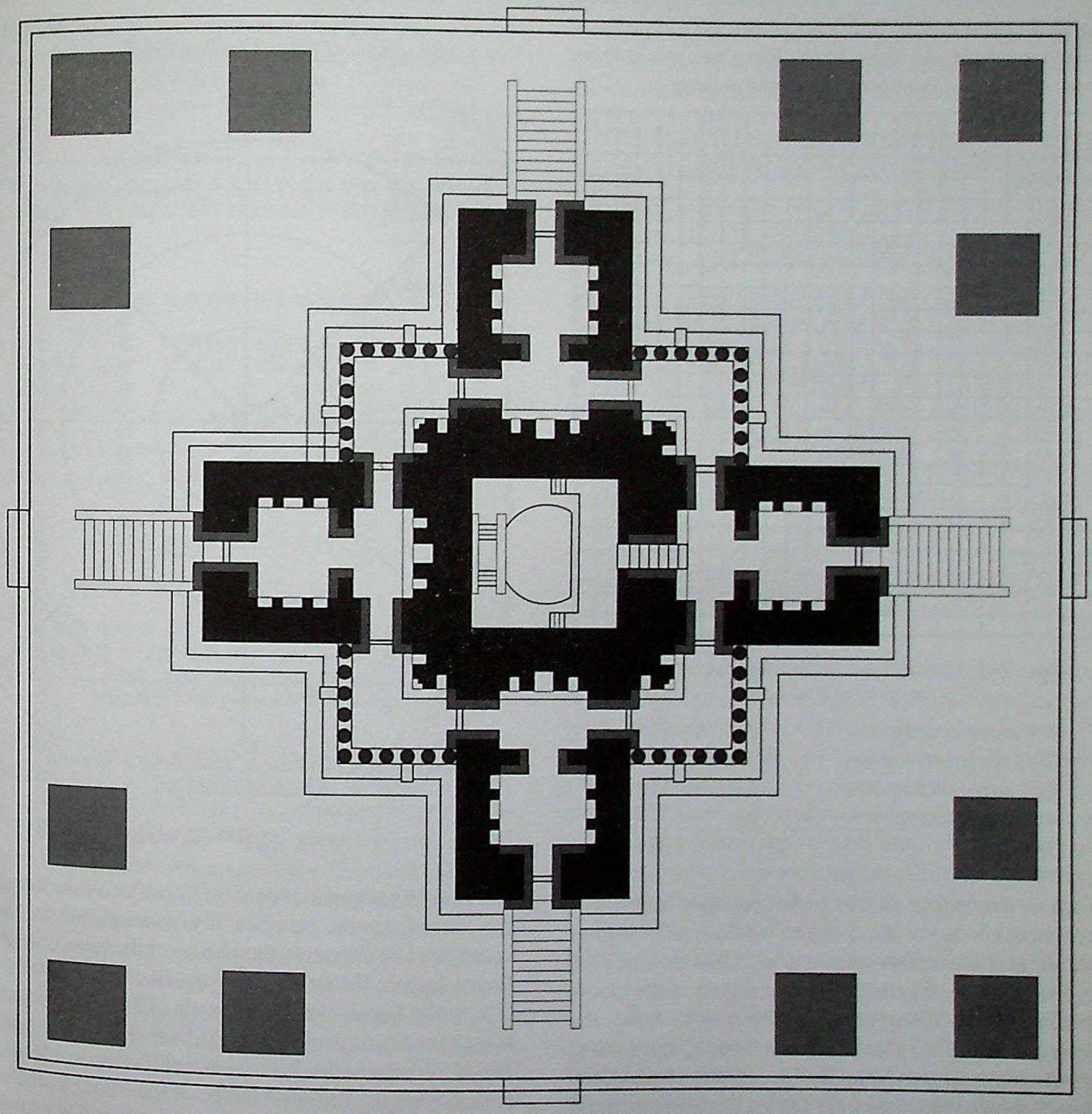
Further, the whole ensemble--i.e., the central platform as well as the first and second courts--is contained within a *mandala*-like square of twenty-two *padas* per side, totalling five-hundred-seventy-six *pada*--a *Vishvesha Mandala* (See: **Figure 61**). With a *mandala* of five-hundred-seventy-six *pada* applied, the central platform then would fit within a thirty-six *pada mandala*. It would appear that the latter consideration is imminently applicable to this *chandi* as thirty-six is a number which represents macrocosmic completeness.

Finally, a circular *Manduka Mandala* when applies to the whole ensemble indicates an applicability, not without certain minor concerns (See: **Figure 62**). The inner circle encloses the whole of the Sanctuary ensemble; the next circle includes the whole

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 34 -- *Chandi Sewu* Sanctuary



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of the space between the two courts: and the outer enfolds the whole.

Numbers are an important mystic consideration within Buddhist arcane considerations. When considering the *Chandi Perwaras*, the integer four appears to predominate these shrines:

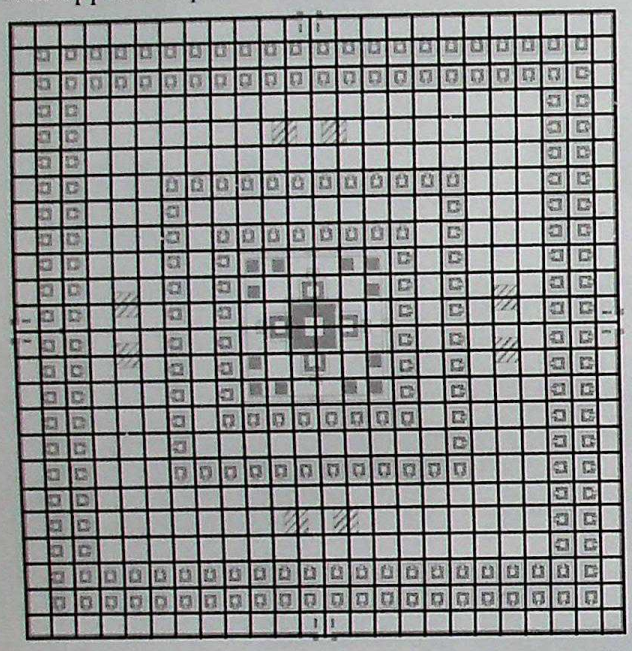


Figure 61: *Chandi Sewu,* indicating a five-hundred-seventy-six *pada* grid

1st surrounding row	=	84	4 x 21 = 84
2nd surrounding row	=	76	4 x 19 = 76
3rd surrounding row	=	44	4 x 11 = 44
4th surrounding row	=	28	4 x 7 = 28
Total			4 x 58 = 232

Four is a number of completeness, perfection, the practical element, the perfect number of a higher plane, and a number whose √ is 2. It is exemplified in: the cardinal directions; the four phases of the moon; the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); and represented by the square.

When reducing[19] these numbers different considerations become apparent.

4 x 21	=	84	(8 + 4 = 12; 1 + 2 = 3)
4 x 19	=	76	(7 + 6 = 13; 1 + 3 = 4)
Total		160	(1 + 6 = 7)

4 x 11	=	44	(4 + 4 = 8)
4 x 7	=	28	(2 + 8 = 10; 1 + 0 = 1)
Total		72	(7 + 2 = 9)

4 x 58	=	232	(2 + 3 + 2 = 7)
		or	(23 + 2 = 25; 2 + 5 = 7)

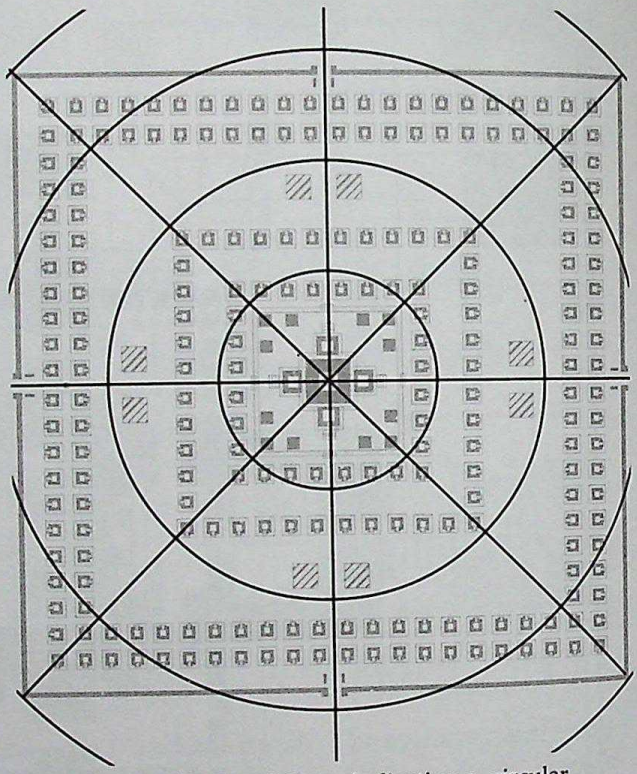


Figure 62: *Chandi Sewu,* indicating a circular *Manduka Mandala*

or (2 + 32 = 34; 3 + 4 = 7)

The number seven assumes an important role. Seven is a sacred, mystic number. It is exemplified in: the seven days of the week; the phases of the moon; Seven Royal Jewels (Indic *Saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the Seven Factors of Enlightenment (Indic: *Satta-bojjhanga*); the seven steps of the infant Buddha. The consideration of the phases of the moon is further buttressed by the twenty-eight *Chandi Perwara* of the inner surrounding row.

If one considers the eight platforms between the first and second court as possible locals for additional *Chandi Perwara*, then the total is two-hundred-forty, as Ariswara (*Prambanan*) and John Miksic assert.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

8 x 30 = 240 (2 + 40 = 42; 4 + 2 = 6)
or (24 + 0 = 24; 2 + 4 = 6)

Six then becomes an operative number. The number six is considered to be macrocosmic, representing the

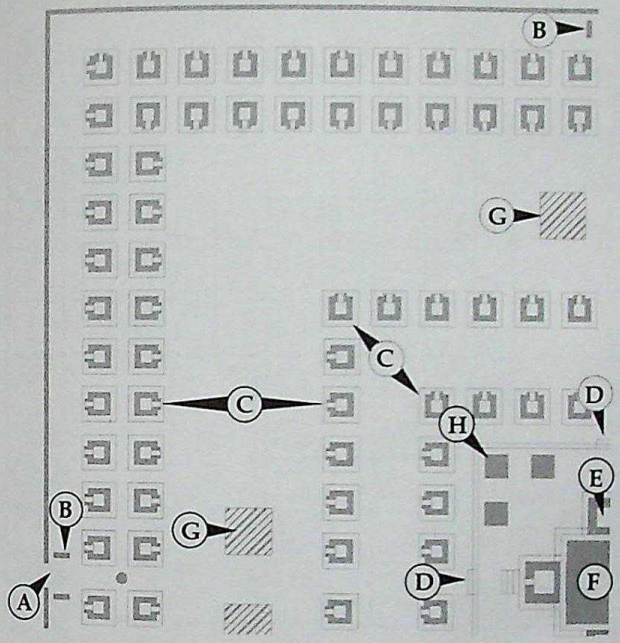


Figure 63: *Chandi Sewu*, north-west quadrant indicating parallels with *Vajradhatu Mandala*

spiritual plus the material world. Further, perfect number, and is exemplified in: the six *Chakras* (Tib.: *hKhol-lo*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake.

Finally, the *padas* of the whole as well as the individual parts must be considered--i.e., the five-hundred-seventy-six *pada* of the whole ensemble, the thirty-six *pada* of the central platform, and the sixteen *pada* of the main sanctuary.

576 = (5 + 7 + 6 = 18) (1 + 8 = 9)
36 = (3 + 6 = 9)
16 = (1 + 6 = 7)

Nine, as is seen, assumes importance. Nine denotes completion, perfection, force, wisdom and silence. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the Nine Jewels (Indic: *navaratna*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being.

If the *Chandi Sewu* is to be considered as a *Vajradhatu Mandala* as is suggested by a number of scholars,[20] then other considerations must be made. A simple visual comparison presents interesting parallels. The *Chandi Sewu*, as the *Vajradhatu Mandala*, possesses four entrances (See: **Plate 7**, [A] and **Figure 63, A**), within the sacred precinct are eight guardian deities (**B** & **B**)[21] although in the *Vajradhatu Mandala* these eight are distribute to the cardinal and intercardinal points. The next barrier are the thousand *Buddhas* (**C**); *Chandi Sewu*, the "Temple of the Thousand *Buddhas*" may have utilized the surrounding *Chandi Perwaras* to hold a thousand Buddha images (**C**). Then within the *Vajradhatu Mandala* comes another barrier with four gates (**E** & **D**) which gives way to the inner precincts where the main deity (**K** & **F**) is flanked at the cardinal points by secondary deities (**I** & **E**).

There are differences or variations. The gates of the inner precinct of the *Vajradhatu Mandala* are guarded by four deities (**D**) which do not appear in the *Chandi Sewu*. However there are eight shrine platforms (**G**) between the outer and the inner groups of *Chandi Perwara* and twelve shrines (**H**) at the corners of the central platform which may individually or combined serve the same purpose. There are of course other considerations--literary and/or extant manuscripts--in ascribing the *Vajradhatu Mandala* to the *Chandi Sewu*, but they fall outside the purview of this study.

It is only of passing interest to note that the number of *Chandi Perwaras* of the *Chandi Sewu* ensemble outnumbers those of *Loro Jonggrang*--two-hundred-thirty-two (or two-hundred-forty) to two-hundred-twenty-four--even though the precincts of the former is smaller in scale than the latter. The sculptural relief ensemble of *Chandi Sewu* is not on a par with *Borobudur*, but then few within Java are. However, *en plan* it is comparable with its neighbor to the south.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Loro Jonggrang

Prambanan, Java, c, 856[22] CE

(JF, JA, AP, MB)

History has smiled on central Java. One finds a number of superb monuments dedicated to the deities. What *Borobudur* was to the Buddhist of Eighth and Ninth Centuries, so *Loro Jonggrang* was to the Hindu of the latter half of the Ninth Century of the Common Era. A mere two hours by modern travel from its Buddhist counterpart *Loro Jonggrang* epitomizes a high point in Javanese Hindu architecture. What is now known as Prambanan was the administrative area of a Javanese kingdom referred to as *Kraton Boko*.[23]

The Prambanan area abounds in architectural sacred monuments. Within a few surrounding miles are a number of religious monuments, none of which, however, approach the size of *Loro Jonggrang*. The area is culturally and architecturally fertile supporting the likes of: *Chandi Lumbung, Chandi Sewu, Chandi Plaosan, Chandi Kalasan* (See: **Appendix A, Plate 108)** and *Chandi Sari*. On a hill a short distance to the south is the ancient administrative center, the citadel *Kraton Boko* (aka *Keraton Boko*). The prospects of this administrative/political center encompass the whole, broad, fertile valley. The central jewel of this Hindu kingdom's crown was and is *Loro Jonggrang*.

Loro Jonggrang is essentially a *Shaiva* shrine. The central, greater sanctuary is the *Chandi Siwa* and reflects the Mount Kailasha in its height (See: **Appendix A, Plates 101 & 110**). It is flanked on the south and north by the lesser sized *Chandi Brahma*, and *Chandi Wisnu*, respectively (See: **Figure 66**; see also: **Appendix A, Plate 110**). The main ensemble consists of an outer wall with four entrances oriented to the cardinal points of the compass, the main portal is to the east as befits a Hindu shrine. Within the sacred precincts established by the wall are two-hundred-twenty-four small, elegant shrines, sometimes referred to as *Chandi Perwara* (aka *Pervara*) (attending) which are cross-axial in their layout. They are slimmer in proportion than the major *Chandi Siwa*--2:1 as opposed to 1.3:1 (See: **Appendix A, Plate 109**). The *Chandi Perwara* are arranged in ranks of eighteen with an avenue between the ninth and tenth file leading from the entrance gate to the pavilion-gate of the raised platform containing the main complex (See: **Figure 64**), the ranks are four deep and recede. Each is oriented towards the point of the compass in accordance to the entrance which it faces. The corner *chandi*, however, as well as all on the diagonal from the corner, possess an anomaly--i.e., each has a false facade the southern half are oriented south and the north half face north (See: **Figure 65**). The symmetry of each descending rank is thus not disturbed. It is noteworthy that those which face east and west do not possess the false facade. *En plan*, the *Chandi Perwara* are *triratha* in form and each sitting upon a square base.

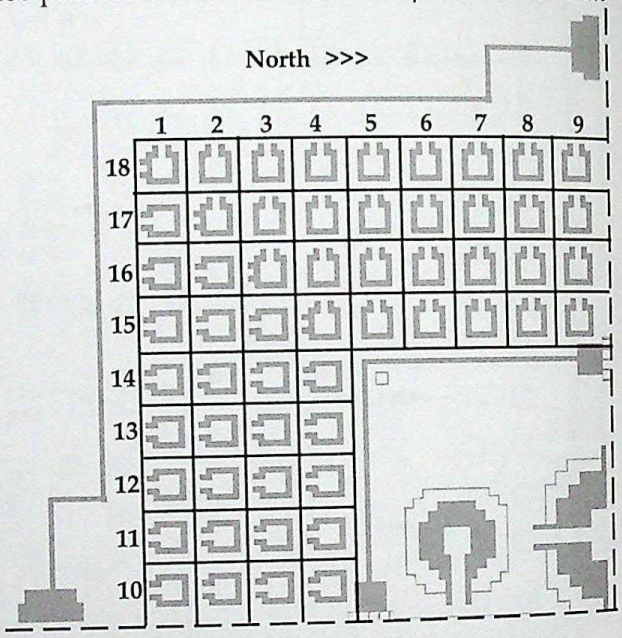


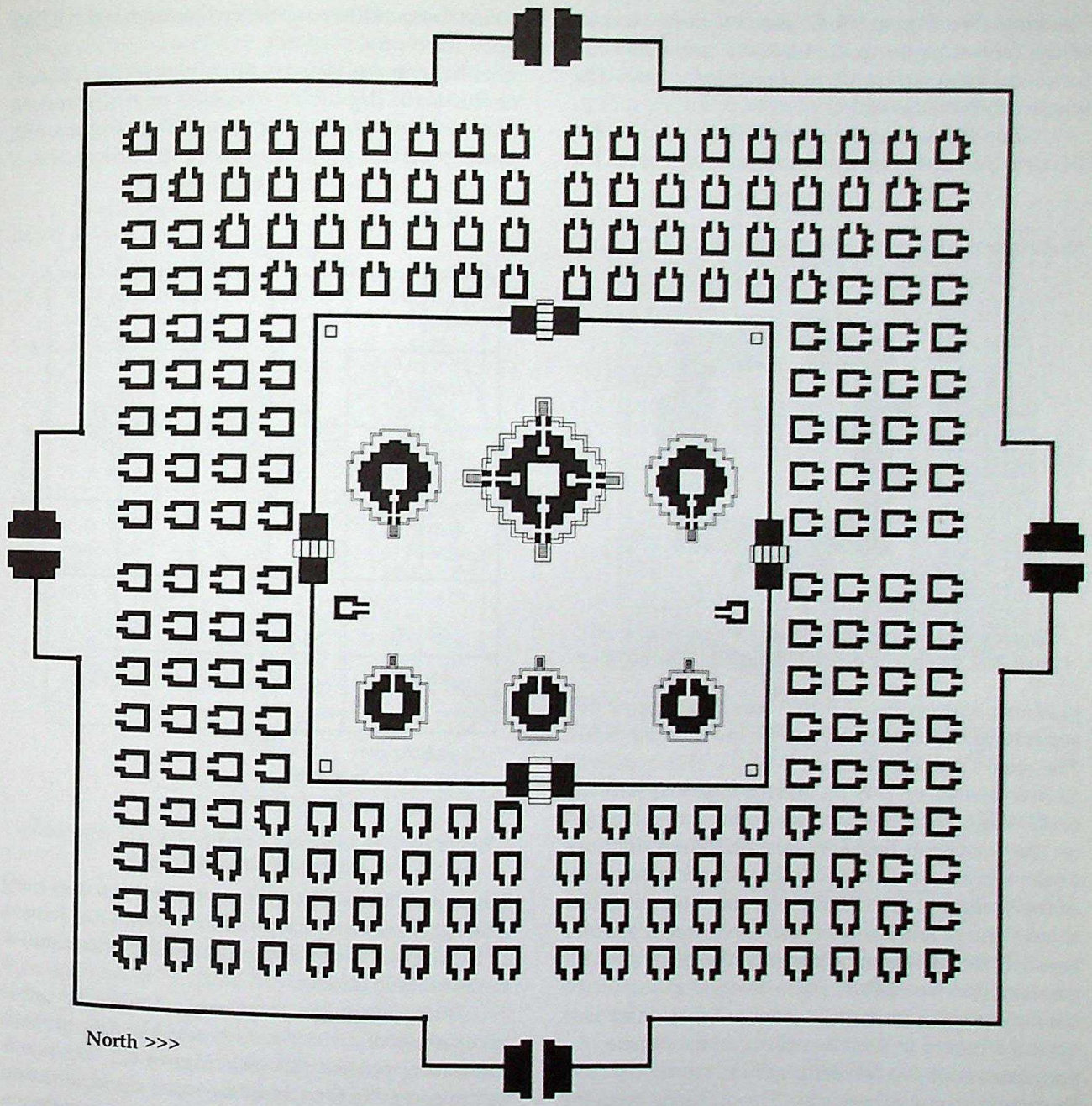
Figure 64: *Loro Jonggrang, Chandi Perwara's* plan, southwest quadrant, indicating the ranks

These two-hundred-twenty-four *chandi* surround a raised platform. The platform's face(s) are oriented to the points of the compass, mirroring the girdle wall of the sacred precinct. In the center of each face is a pavilion, gateway with steps leading to the level of the platform. This upper level holds eight structures which can be grouped into four classes: 1) the main structure, the tall, massive *Chandi Siwa* (*Shiva*), facing east; 2) two flanking secondary structures, somewhat smaller than the central shrine, but proportionally the same, the *Chandi Brahma* and the *Chandi Wisnu* (*Vishnu*), facing east; 3) three smaller temples facing the three major *chandis*, *Chandi Angsa* (*Hamsa*) facing *Chandi Brahma*, *Chandi Nandi* fronting *Chandi Siwa* and *Chandi Garuda* facing *Chandi Wisnu*, all are oriented to the west, towards their Lords; and 4) two small, diminutive shrines just inside the north and south entrance pavilions, both oriented to the center of the platform often referred to as *Chandi Apit*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 35 -- *Loro Jonggrang* Ensemble



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(flanking) (See: **Figure 66**). *En plan*, the major temples of the central platform are basically *pancharatha* in form and each sitting upon a rectilinear base. The whole ensemble is axial.

The three major temples, dedicated to the *Trimurti*, do not rest on the north-south median of the

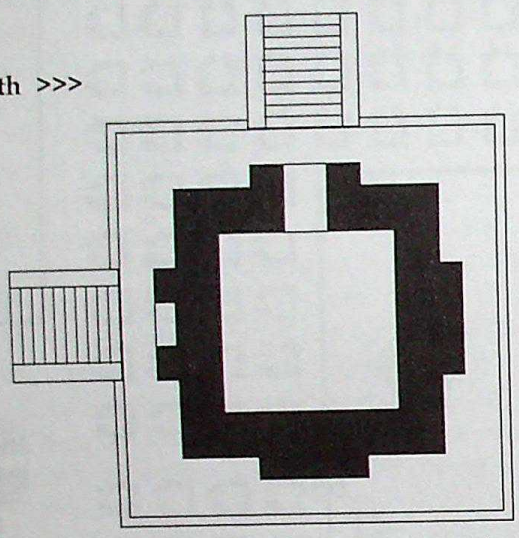


Figure 65: *Loro Jonggrang, Chandi Perwara*, southwest corner and diagonally aligned, indicating false entrance

platform, but on the N-S (**g**)[24] axis (See: **Figure 66**), separating the top third from the bottom two-thirds. The axial *Chandi Brahma* on E-W (**a**), The cross-axial *Chandi Siwa* sits on E-W (**c**), and the axial *Chandi Wisnu* on E-W (**e**). Their corresponding *vahana* temples rest on the corresponding E-W axis and all of the three minor temples sit on the N-S (**j**) axis, and in the center of the bottom N-S, as well as the corresponding E-W third. The orientation of the three major shrines towards the east is on a par with the placing of the *garbha-griha* (womb) of Hindu temples in the west--the feminine direction. It is a standard that is also used by the Khmers in their temple mounts. Further the proportions of the central platform are based upon the magic square of nine *pada*. The divisions being the E-W (**b** & **d**) axis and the N-S (**g** & **i**) axis.

A number of *mandalas* may be applied to the *Loro Jonggrang*. The arrangement of the *Chandi Perwara* would appear to indicate a *mandala* of three-hundred-twenty-four *pada*, a *Karnashtaka Mandala*, the √ of which is eighteen (See: **Figure 68**). In this *mandala* each of the small *chandi* occupy one *pada*. It would also seem possible to half this *mandala*, forming a *Paramashayika Mandala* (See -- -- -- -- -- : **Figure 68**). However, the acceptability of this *mandala* breaks down when it falls upon the central platform.

The central platform with its nine (*Pitha Mandala*) or thirty-six (*Ugrapitha Mandala*) or one-hundred (*Asana Mandala*) *pada* division (See: **Figure 69**), presents certain problems due to the orientation of

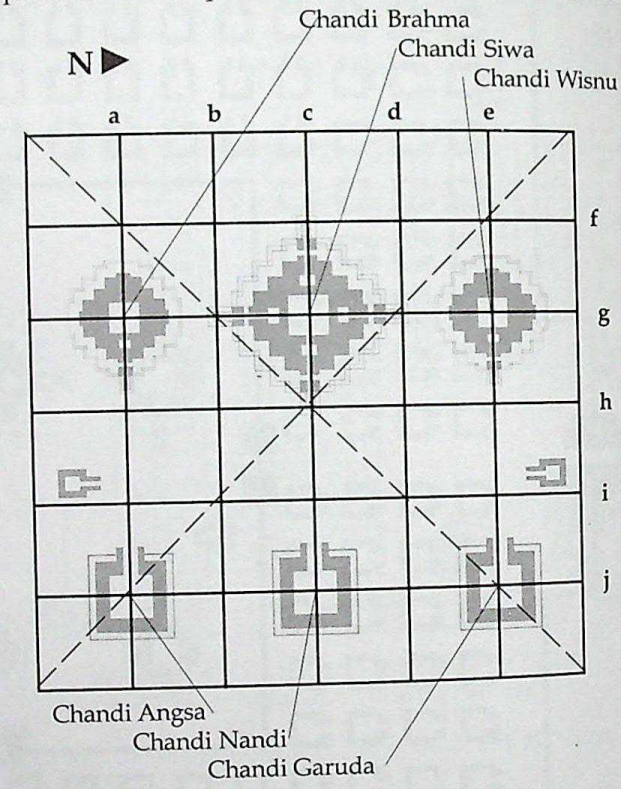


Figure 66: *Loro Jonggrang*, central platform proportions & arrangementof major shrines

the major shrines. It is to be noted that *Loro Jonggrang* is roughly contemporary with the Preah Ko, Roluos, of the Khmer, which displays a similar orientation of its three main shrines.

The whole of *Loro Jonggrang*, when considered as an example of a circular *Manduka Mandala*, presents interesting possibilities (See: **Figure 67**). The whole of the ensemble fits within the outer circle, as would be expected. The second circle touches the gateways at edge of the extensions (*rathas*), excluding three of the *Chandi Perwaras* of each corner. The third ring entirely encircles the central platform with its six major shrines. Finally, the inner ring encloses all of the *Chandi Siwa* as well as portions of the *Chandis Brahma* and *Wisnu*. The inner circle excludes the *vahana* shrines of *Brahma* and *Wisnu*. The *garbha-griha* of the *Chandi Siwa* is not at the center of the *mandala*. However, that point

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

falls at the beginning of the eastern staircase leading to that *chandi's* sanctuary.

The number four plays an important role, particularly with regard to the *Chandi Perwara*. Four denotes completeness, perfection, the practical element, worldly balance or order, and the creating

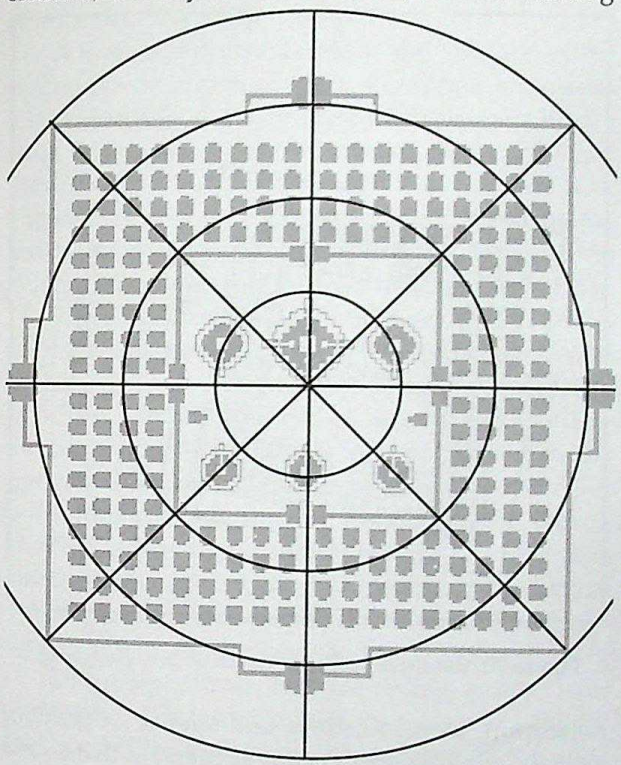


Figure 67: *Loro Jonggrang*, entire ensemble indicating *Manduka Mandala*

fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). As with the number two, the even number four is seen to be associated with the Moon. Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. It is visually represented by the square which for the Hindu represents the stability, unchangingness of The Absolute One.

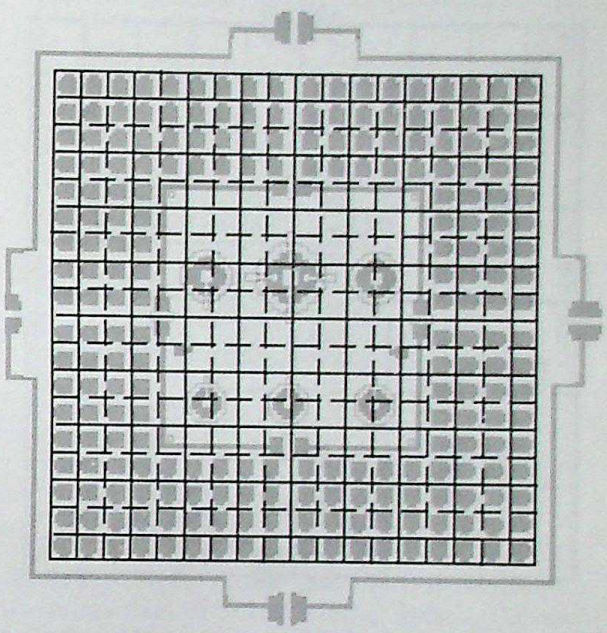


Figure 68: *Loro Jonggrang*, entire ensemble indicating *Karnashtaka Mandala*

1st surrounding row	= 68	4 x 17 = 68
2nd surrounding row	= 60	4 x 15 = 60
3rd surrounding row	= 52	4 x 13 = 52
4th surrounding row	= 44	4 x 11 = 44
Total	4 x 56 = 224	(4 x 14) 56

In reducing the numbers associated with the *Chandi Perwara* , the numeral eight emerges as an important integer. It is the number of perfection, good fortune, and auspiciousness. It is exemplified in: the *Manduka Mandala*; the sacred eight petal lotus; and the octagon.

4 x 17 =	*68* (6 + 8) = *14*	(1 + 4) = 5
4 x 15 =	*60*	(6 + 0) = 6
4 x 13 =	*52*	(5 + 2) = 7
4 x 11 =	*44*	(4 + 4) = 8
Total		*26* (2 + 6) = 8

4 x 56 = *224* (22 + 4) = 26 (2 + 6) = 8 or
224 (2 + 2 + 4) = 8

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The number eight denotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the trinity (*Trimurti*), the divine family (father, mother, child). Further, it represents unity (the number 1) plus diversity (the number 2) which equals perfection, and is exemplified in: the Three Principles of Life (Indic: *Lakkhana*); the Three Worlds (Indic: *Triloka*); the *trishula*; and the triangle. Nine denotes completion,

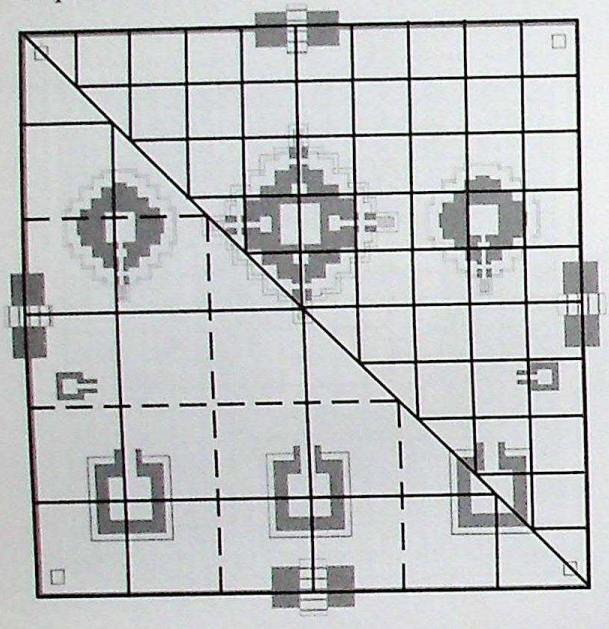


Figure 69: *Loro Jonggrang*, sanctuary ensemble indicating *Pitha Mandala* (— —), *Ugrapitha Mandala* and *Asana Mandala*

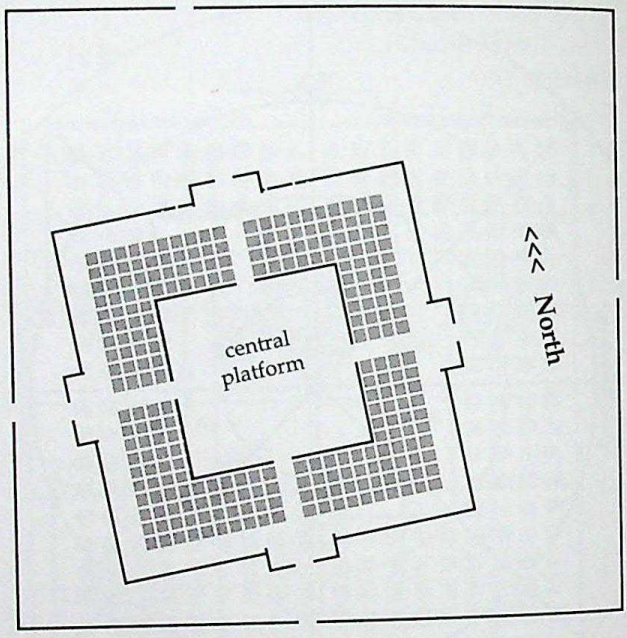


Figure 70: the three wall enclosure of *Loro Jonggrang*

Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges being: *sita, ushna, sukha, duhkha, iccha, sattva, rajas* &; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*).

The central platform with its nine (or thirty-six) *pada* division or a one-hundred pada division (See: **Figure 69**), noted above, also reflects the integer three--i.e., three which is the √ of nine, the three main shrines as well as the three *vahana* shrines. Three, as has been noted, is the number of perfection. It represents the perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion and space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*) being: pearl, ruby topaz, diamond, emerald, coral, sapphire, moonstone, sardonyx; the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*). As the second most powerful odd number (the square of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

sacred three), nine is assigned the puissant planet, Mars.

In addition, the massive *Chandi Siwa* (47 meters high) would represent the sacred mount of the Lord *Shiva*, Mount Kailasha. It would seem to be a close relative of the mounts of the early and contemporary Khmer (See: **Plate 39**).

A final architectural note is the 'nesting' of the central platform area within a set of three enclosures (See: **Figure 70**). This may be either an anomaly strictly isolated to this region or it may represent other influences as Atmadi notes only two other *chandi* with a three wall configuration.[25] In this arrangement, the inner two enclosing walls are oriented towards the points of the compass, however the outer wall is not. The three enclosures may well refer to the sacred enclosures that are utilized in various yantras as well as those employed in Buddhist *thangka* (See: **Plates 6 & 7**). This 'nesting' may also be seen as influenced by the concept of the Chinese universe in which the emperor is the center, surrounded by his royal court and household, followed by the Han in the "Peace-securing" zone, then by increasingly less desirable ethnic groups, and finally by uncivilized barbarians (See: **Figure 71**). The "nested universe exhibits certain similarity with the Indian *mandala*.

The magnificent *Loro Jonggrang* as its sister monument, *Borobudur*, possesses a series of superb sculptural detail. Although, not as profuse as the latter, they are, nonetheless, of equal aesthetic importance. *Chandi Siwa's* sculptural ensemble recounts the story of the great epic, the *Ramayana* from its inception to the attack on *Akengka*. *Chandi Brahma's* reliefs continue the tale of *Rama* until *Sita* is rescued. Finally, *Chandi Wisnu* ensemble is dedicated to *Krishna*. Additionally there are numerous other panels on each of the three main shrines which relate directly to the members of the *Trimurti* to which the shrine is dedicated. Of interest is a frieze on the *Chandi Brahma* which depicts in square panels various *Brahmins* in meditation.

The major difference, setting aside scale and religious orientation between *Borobudur* and *Loro Jonggrang* has nothing to do with aesthetics. Rather it is the lamentable fact that with the exception of the shrines on the central platform, the remainder of the ensemble of this important Hindu shrine is essentially still in ruin. Whereas *Borobudur* has been "restored" to the point that its original state can be more or less appreciated, *Loro Jonggrang* has not had that luxury except for the major three shrines. The sea of *Chandi Perwara* are, for the most part, still in ruin and present a sea of tantalizing blocks and sculptural fragments. These piles of dressed and carved stone fall in wild disarray about their individual platforms, crying to be reassembled.[26]

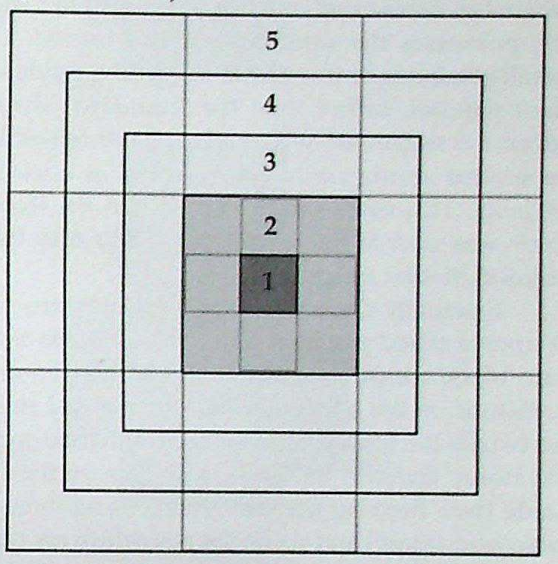


Figure 71: Chinese "nested" universe: 1) Imperial center, 2) royal holdings, 3) "Peace Securing" domain, 4) domain of "Restraint," and 5) "Wild" domain.

The influence of India upon the Java cultures cannot be denied. However, this culturally rich land had impressed upon the preexisting forms their own regional identity, making a statement of unparalleled beauty.

Loro Jonggrang has sometimes been referred to as "The last great monument of the Central Javanese Period."[27] It stands, not in splendid aesthetic isolation to its predecessors as does the *Bayon* of Angkor, but is a fitting cap-stone to Hindu, monumental architecture of this period.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chandi Sari

Prambanan, Java, 9 C, CE

(JF, JA, AP, MB, PR)

A short distance to the west and south of *Loro Jonggrang* is the *Chandi Sari*, A Buddhist Shrine. It is what might be considered as aberrant in plan due to its rectangular, axial layout (See: **Appendix A, Plates 112 & 113**). It is not alone in this feature as the *Chandi Plaosan Lor*, considered to be an antecedent to *Chandi Sari*, possesses the same rectangular format. The overall character of this *chandi* suggests a residence, albeit palatial, rather than the "standard" shrine. Indeed it is suggested by a number of authorities that the second storey could have served as a monks residence. However, others suggest that the second storey was part of the whole shrine and may have included *Buddha* images.

Externally, *Chandi Sari* is a three storey structure set upon a raised platform. The first two levels of the main block are punctuated with windows on each level--four on the north face (two on the first storey and two on the second), four on the south (two on the first storey and two on the second), five on the east facade (two flanking the east entrance and three on the second storey) and six on the rear which are blind (three on the first level and three on the second). The third storey is recessed and crowned with *stupa*-like forms.

Unlike the ensembles of *Loro Jonggrang, Chandi Sewu* and *Chandi Lumbung*, the *Chandi Sari* no longer possesses the surrounding *Chandi Perwara* that the others do, if, indeed it ever did. It may have had *Chandi Apit*, but if so, they too no longer exist. Nonetheless, it is a superb small shrine of elegant detail and design. Its rectangular plan contains three chambers on the first level of similar size and spaced equally within the block. The east entrance opens directly onto the central room with a raised platform to the rear, doubtless to hold a Buddha image. The central chamber, lit only from the entrance is cave-like (Indic: *garbha*; Bur.: *gu*). Through a narrow passageway, one on the north and one on the south, one may enter either flanking chambers. Each are identical with the center, except for the fact that their interiors are illuminated by the stone-pierced windows. It is believed that these two flanking chambers held images of *Bodhisattvas*--possibly a form of *Avalokiteshvara* and *Tara*--since the neighboring *Chandi Kalasan* was apparently dedicated to *Tara*, an important goddess/*Bodhisattva* and consort of *Avalokiteshvara* .

The temple proportions that were influenced by India, and are to be found in the other temples of Prambanan,[28] are not present in the plan of *Chandi Sari*. However, the adherence to axial symmetry that is so much a hallmark of Indian architecture is here present.

The interior division as well as the external division gives precedence to the number three. Since the numeral three is considered a masculine number, this concept is buttressed by the three finials atop the three small *stupa* that now surmount of the structure. They are *linga*-like and would seem to indicate an assimilation into Buddhism of one of the aspects of the *Shaivas*. Additionally, the *trishula*, also a *Shaiva* icon would appear to be represented by the three in consort. Finally, the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*) would also appear to be represented not only in the three chambers, but also the three stories as well.

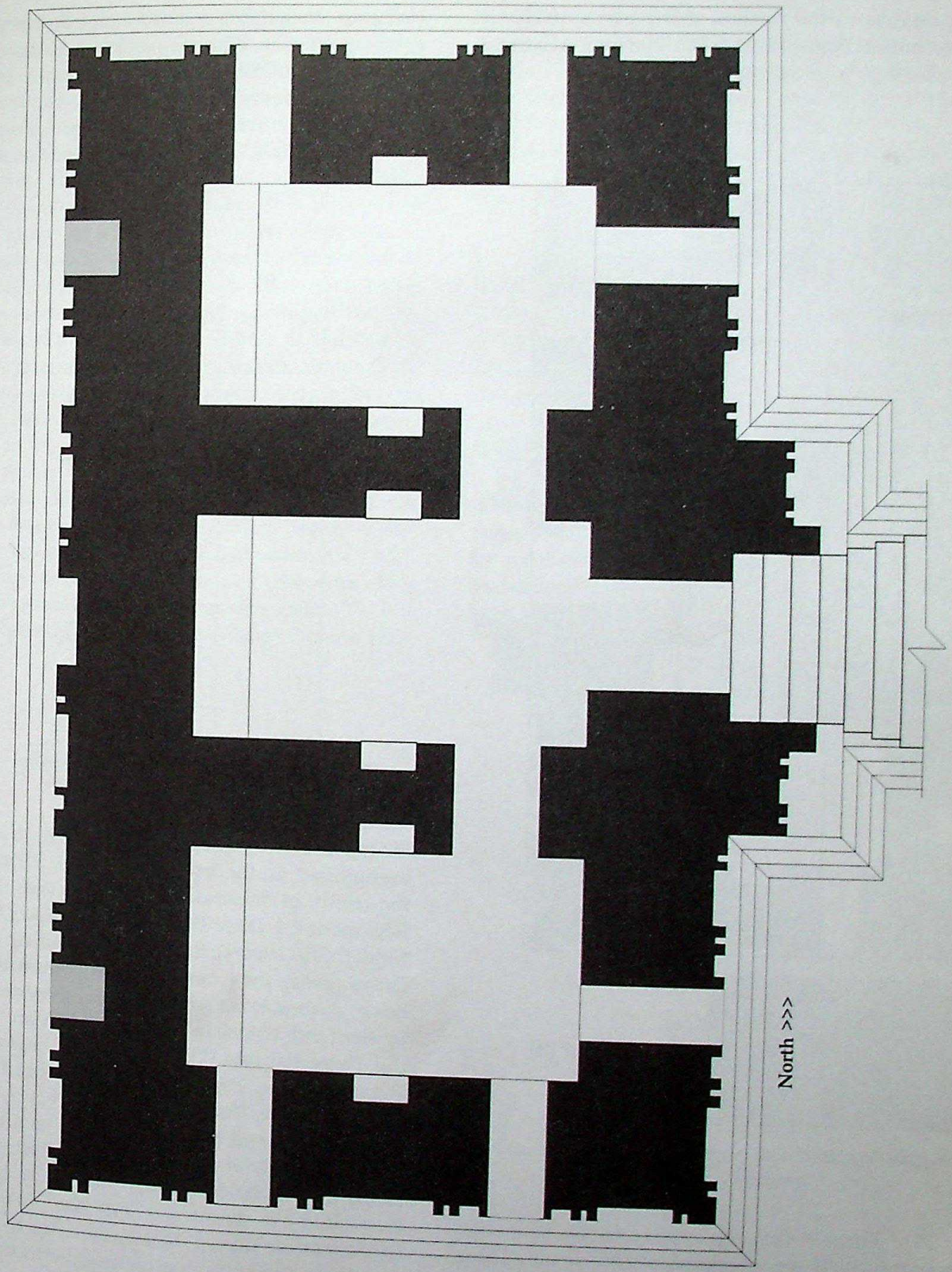
The rectangular plan of *Chandi Sari* appears to be a deviant plan--deviant in as much as it abandons the square and its *mandala* application. What then is the basis for the design of this temple? The rectangle of the temple is not composed of a double or even a square-and-a-half. The solution seems to be found in the interior chamber(s). If one takes any of these interior chambers as a possible standard, then some very interesting solutions are probable. In addition, as is stated above, the centering of the numerological consideration of the *Chandi Sari* revolves around three. If one takes that standard (**S**)[29] and rotates it ninety degrees, then place it side-by-side, length by length, three times, the resultant space is one third of the whole temple block, *en plan* (See: **Figures 72 & 73** [S^{i}-S^{IX}]). Then, if this tripartite unit is then stacked one upon the other, three times, the whole of the temple block is contained. **S**, therefore, equals one-ninth of the whole.

In taking the central tripartite units and drawing a diagonal from one corner to its opposite corner, it is observed that this diagonal also bisects, diagonally, the central standard. The angle of this diagonal bisection is 30° (See: **Figure 72**).[30] A second diagonal is drawn to opposite corners of the whole temple block (**B**), again establishing an angle of 30°. It is to be noted that 30° is an angle that is of no mean

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 36 -- Chandi Sari



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

importance in the design of the plans of Hindu temples (See: **Plates 10, 11 & 20**). The total area of the temple block is, therefore:

plan = 9S.

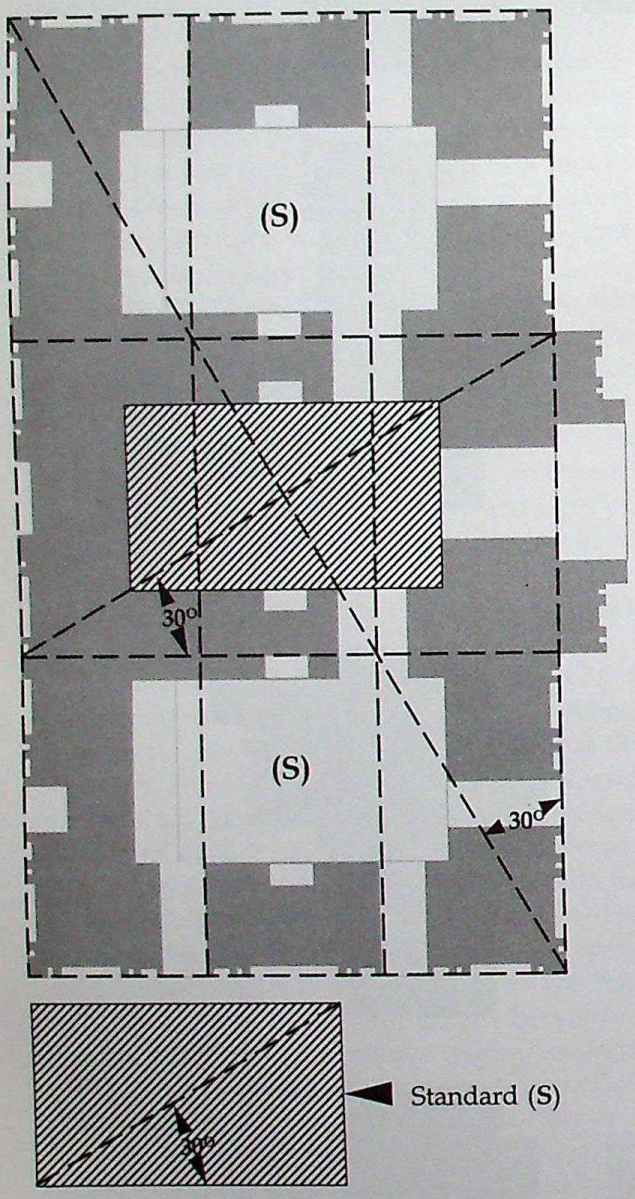


Figure 72: *Chandi Sari,* proportional layout, indicating "Standard" and 30° angle

Three numbers appear to be of prime importance; Three, nine and twenty-seven. Three denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is

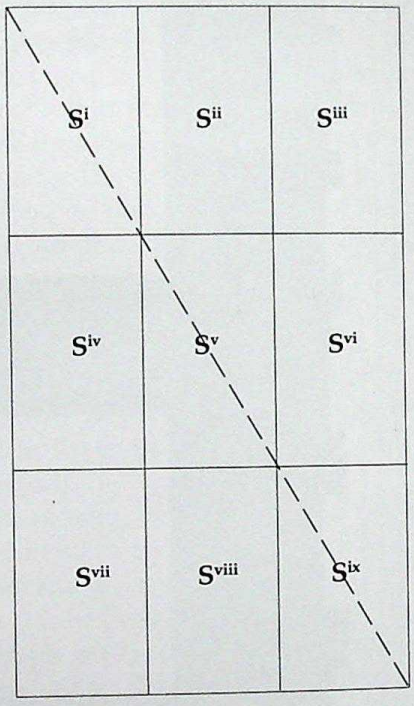


Figure 73: *Chandi Sari,* proportional layout of the temple block and the façade

the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva;* the trinity of *Sarasvati, Lakshmi, Parvati;* the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit) being: *dharma, artha* and *kama;* the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar;* the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha,* the *dharma;* (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Nine, referring to the nine standards, connotes completion, perfection, force,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion and space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Finally, if one combines the standards (S) of all three stories then the total is twenty-seven, or 3^3. Twenty-seven denotes sacredness as $3 \times 9 = 27$, and energy as in the union of two opposites. This integer represents the first masculine cube (3^3). It is exemplified in: the number of beads in a *Sumirni Mala*, the number of planets or stars which are used to determine the length of a Hindu temple; and is the number of nights in which the moon is visible. As a compound number it is associated with the Moon (*Soma* or *Chandra*) (2) and the planet *Ketu* (the descending node of the moon) (7). When reduced it produces nine and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*) (9).

Finally, it is to be noted that if one takes the proportional layout (See: **Figure 73**; See also: **Appendix I, Plate 113**) of the temple block and place it over the facade of *Chandi Sari*, the standards noted as: S^{i}, S^{ii} & S^{iii} will closely correspond to the three stories and the vertical elements of the facade fall comfortably within the standards: S^{i}, S^{iv} & S^{viii}. The same can also be said of *Chandi Plaosan Lor* (See: **Appendix A, Plate 115**).

If the square as espoused by the Hindu or the circle as was preferred by the Buddhists was abandoned in the design of *Chandi Sari*, the demand for axial symmetry is met. *Chandi Sari* is, indeed, a beautifully conceived structure whose proportions have stood the test.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chandi Djago

Malang, c. 1270-1280 CE

(JF, JA, PR)

Chandi Djago of the Singhasari Dynasty in East Java is a monument of unique importance. It is basically a Buddhist structure, but more importantly a *Tantric* Buddhist shrine. It is believed that it is a burial monument dedicated to King Vishnuvardhana. The shrine itself, now in partial ruin, doubtlessly reflected the East Java type as exemplified in *Chandi Kidal* (See **Appendix I, Plates 116 & 117**)--i.e. tall, slender and with a tendency of the roof line to bulge-out above the cella. This shape, this form many view as a representation of the merging of certain Hindu

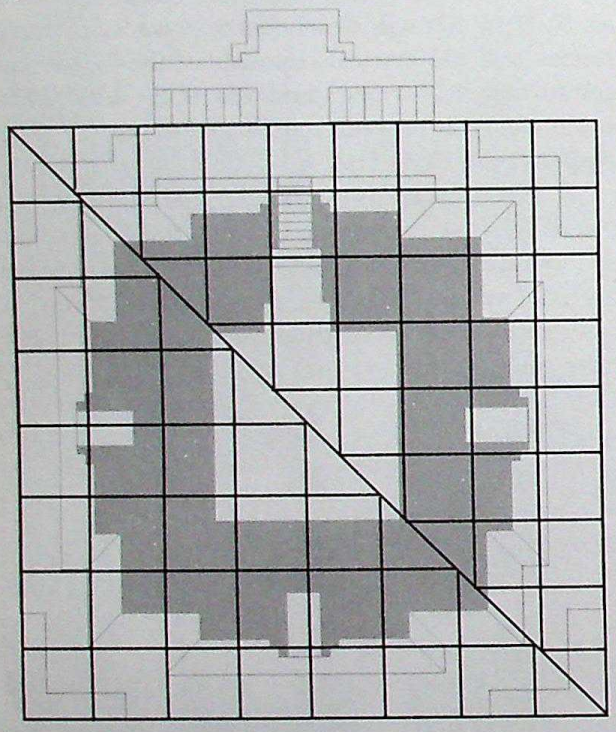


Figure 74: *Chandi Djago*, shrine with platform, indicating sixty-four and eighty-one *pada* grid

practices with Buddhist as well as certain phallic (*linga*) associations.

Noteworthy, is the overall prospect of this axial temple. The shrine ensemble is placed to the back of two, superimposed platforms (See: **Plate 37**, [**A**] & [**B**])--the top plinth (**B**) being approximately twice the height of the lower. Access to each level is by two pair of stairs. These lead to a shorter platform-base (**C**) upon which the shrine is situated. Again two short staircases lead to the entrance portico of the monument unlike the single stairway seen in the vast majority of other sanctuaries. The shrine is basically a *pancharatha* in form, but all other references to Indian or even traditional Buddhists influences stop here.

The application of either a square *Manduka Mandala* or a *Paramashayika Mandala* to either the shrine proper or the shrine and its plinth (**C**) produces less than satisfactory results (See: **Figure 74**). The application of a circular *Manduka Mandala* when placed over the shrine and its platform (**C**) does not produce entirely satisfactory results either (See: **Figure 75**). When a circular *Manduka Mandala* is impressed upon the temple to either limits of platform (**A**) (See: **Figure 76**), likewise, this does not produce acceptable

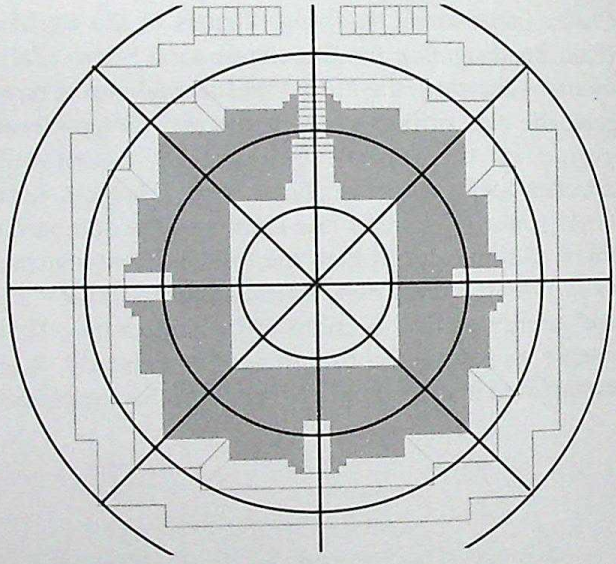


Figure 75: *Chandi Djago*, shrine with platform, indicating circular *Manduka Mandala*

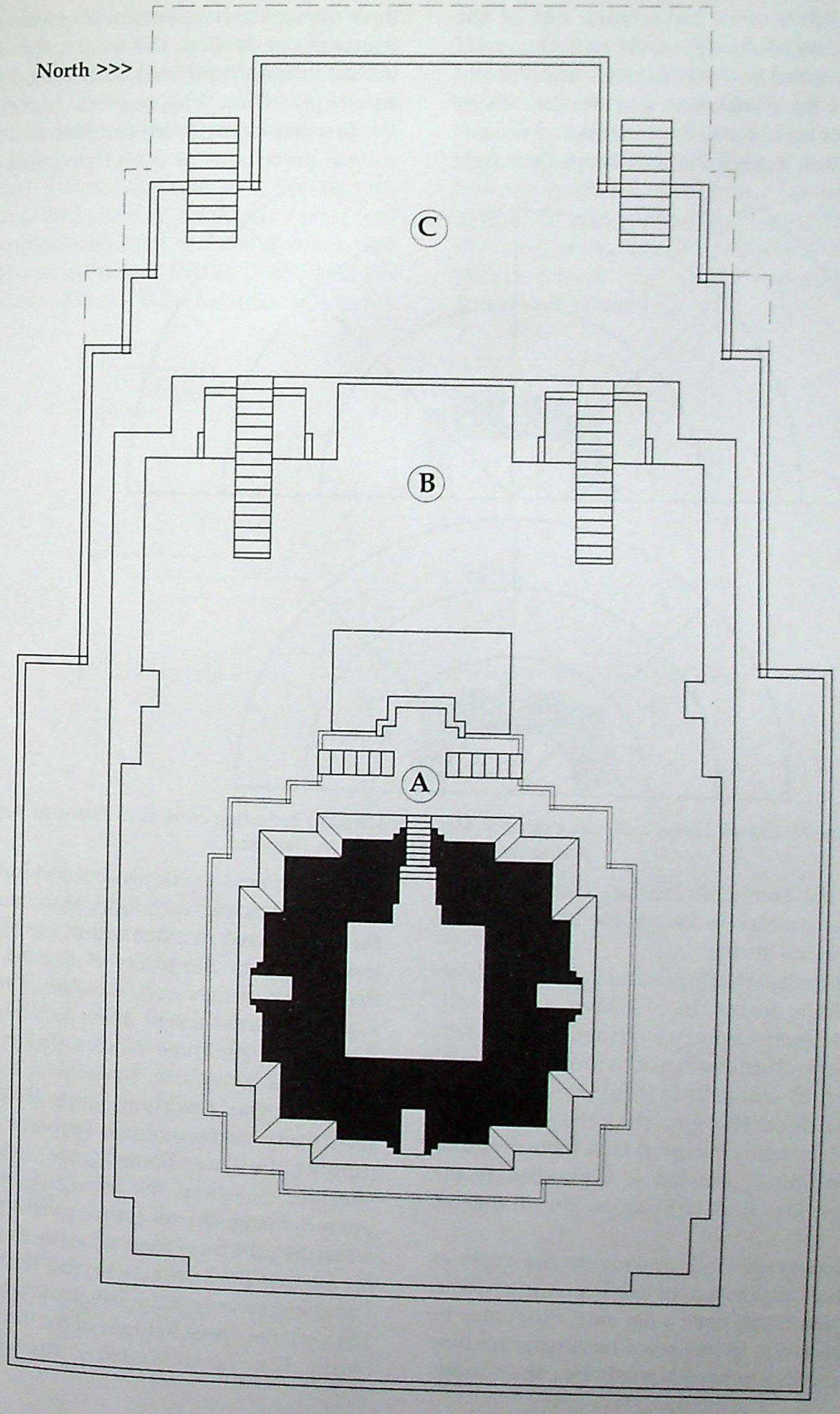
results. The circular *mandala*, however, is somewhat more acceptable than the square grids.

Rather than the temple being oriented eastward, *Chandi Djago* is facing the west--the region of the dead. This orientation is undoubtedly due to its *Tantric* character. *Tantra* is a practice that involves magical/mystical, esoteric rituals and initiations that became amalgamated into both Hinduism and Buddhism in varying degrees. Within Buddhist practices, *Tantra* is manifested in the *Vajrayana* tradition. *Tantra* is seen to possesses two forms: the *Tantra* of the "right hand" which is basically masculine in character, emphasizes the creative energy; and the *Tantra* of the "left hand" which gives precedence to the female principles and tends towards orgiastic rites. The *chandi* is seen as a manifestation of the *Tantric* "cult of the left-hand." This cult was noted for its rituals which included the imbibing of intoxicants and sexual

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 37 -- *Chandi Djago*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

rituals as well.[31] Stories have come out of the Singhasari Dynasty relating how certain leaders and/or priests succumbed to these "orgies." Additionally, the direction of the *pradakshina* that was associated with this cult, ran counter to established and revered clockwise practice, in so doing, one keeps their right side towards the sacred shrine--i.e., *Chandi Djago*'s *pradakshina* ran counterclockwise, the left-hand side towards the central shrine.

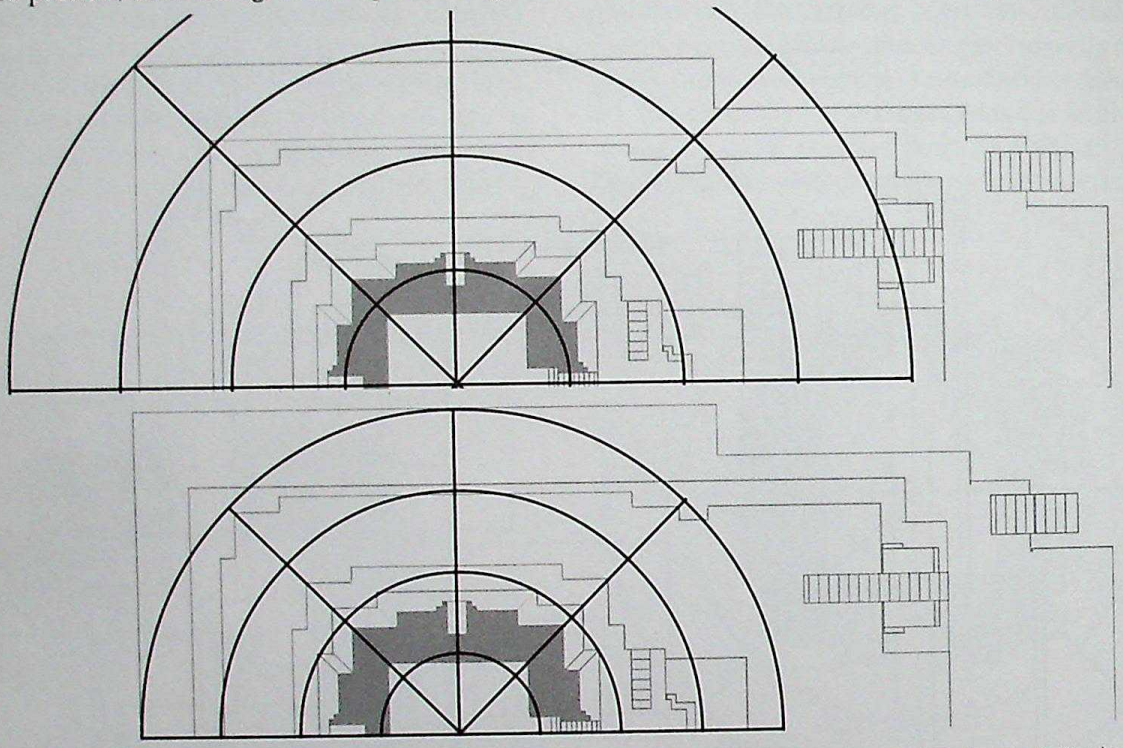


Figure 76: *Chandi Djago,* indicating circular *Manduka Mandala*: including corners of Plaforrm **A** (top); and to the edge of Platform **A** (bottom)

The two faiths--Hinduism and Buddhism--both possessed *Tantric* forms. In east Java, apparently during the Thirteenth Century, a syncretism of the two faiths appeared with an overlay of *Tantrism* which may have appealed to many. This theological amalgam may have bridged the gap that the two faiths engendered.[32] Certainly in central Java, three centuries prior, the two faiths coexisted as is manifest in the various ensembles and shrines on the planes of Prambanan.

The iconography of numbers do not apply as much to *Chandi Djago* as it does to other temples. Icons or symbols, like coins, have a flip side. What may be one in interpretation in one set of circumstances may be the opposite in another.[33] Nonetheless, the number three appears to have special importance here. Three connotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva;* the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali; trishula;* the Three Regions or the Three Worlds (Indic: *triloka*) being: *arupadhatu, rupadhatu, kamadhatu;* the Three Cities (Indic: *tripura*); the Three Times (*kála*) being: *bhuta-kala* (past), *vartamana-kala* (present), *bavishya-kala* (future); the Three Forces (*guna*) being: *sattvaguna, rajoguna, tamoguna;* the *trivarga* (objects of human pursuit) being: *dharma* (virtue), *artha* (purpose), *kama* (pleasure); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar;* the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma;* (Pali:

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

dhamma) (the law), the *sangha* (the community of monks); the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*), and the triangle, the most stable of all forms and a symbol of the *linga*. It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*).

Without a doubt, the east Java-type temple, perched upon its two plinths, would have produced an imposing and moving sight to those devotees who would have processed to its confines (See **Appendix I, Plate 117**). Moving through the forested approaches and in to a relatively flat area where the *chandi* rose up would have created an effect, not unlike walking through the warrens of the nineteenth century Roman streets and coming onto the *Piazza S. Pietro* and the imposing *S. Pietro*. Created to not only inspire, but also as an example of the Tantric *vamachara* cult this temple possesses an importance which is in opposition to its relative size. *Chandi Djago* along with its friezes of orgiastic character and the esoteric rites practiced there was and is a superb example of the *Tantric* cult in east Java.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chandi Panataran Sanctuary

Blitar (Kediri), Java, 1320-1370 CE

(PR, MB, JF, JA)

The *Chandi Panataran*, a *Shaiva* sanctuary of the Fourteenth Century, indicates, if not a revision to standard Hindu shrines in East Java, at least a continuation of a tradition within basically Hindu monuments during the Madjapahit Kingdom. It is the major shrine set within a complex of courtyards sprinkled with other shrines and terraces, the layout of the whole is asymmetrical. It is said to reflects the plan of the Balinese temple ensemble (See: **Figure 77**).[34] Although neither as complex nor on the scale or size of the Central Java counterparts--e.g., those at Prambanan--the *Chandi Panataran* is nonetheless a complex of no mean import.

The sanctuary consists of the main, elevated shrine which rests on two platforms/plinths above four subsidiary shrines. These four shrines (*Chandi Apit*) are all facing outward and are oriented, as is the whole, to the intercardinal points of the compass. The northwestern subsidiary shrine is set somewhat forward from the main shrine to accommodate the three central stairways which lead up to the central shrine (shown by the imposed broken line on **Plate 38**). This places it out of circular alignment with regard to the other three *Chandi Apit*. The total is seated upon a high plinth with a pair of long staircases leading to the platform's elevated surface. There is a parallel between *Chandi Panataran* and *Chandi Djago* in that in both, the main sanctuaries are seated well back from the initial elevation--the latter on its layered plinths and the former with regards to its total ensemble.

The central shrine, the sanctuary proper, is oriented to the northwest, which, like *Chandi Djago*, is considered to be the realm of the dead. Among the design detail associated with the sanctuary mount as well as the attending shrines, are downward oriented triangles and *naga* (serpent) symbols. The downward pointing triangle is a traditional feminine symbol (*yoni*), and would seem to provide additional evidence of the importance of *Tantric* worship during this period. Likewise, the *naga*, a water symbol, is also a masculine symbol--i.e., phallic and the term for water (Indic: *apa, jala*) is also an argot for semen.

The axial sanctuary ensemble appears to be based upon the number five--i.e., five temples within the ensemble and the layout falls within the five by five *pada mandala*, an *Upapitha Mandala* (See: **Figure 78**). It is not beyond canon that a *mandala* other than the *Manduka Mandala* or the *Paramashayika Mandala* becomes the basis for an ensemble design. The problems that arise when considering either the *Manduka* or *Paramashayika Mandala* (See: **Figure 79**), minor as they may be, causes one to consider as the more viable option, the *Upapitha Mandala* as the source of the design. The four *Chandi Apit* are included within the outer band and the main sanctuary is protected by the inner or central *pada*.

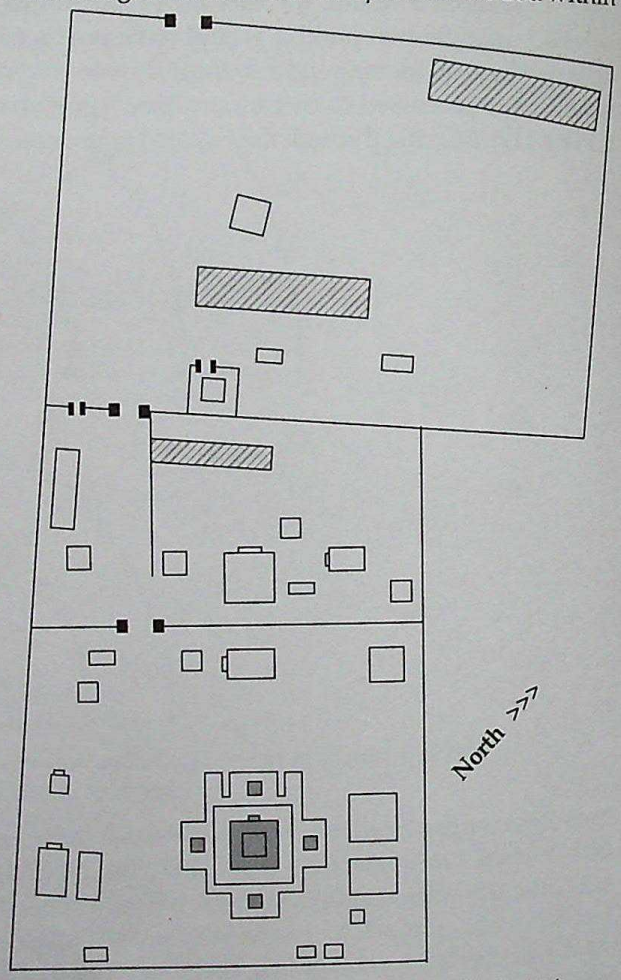


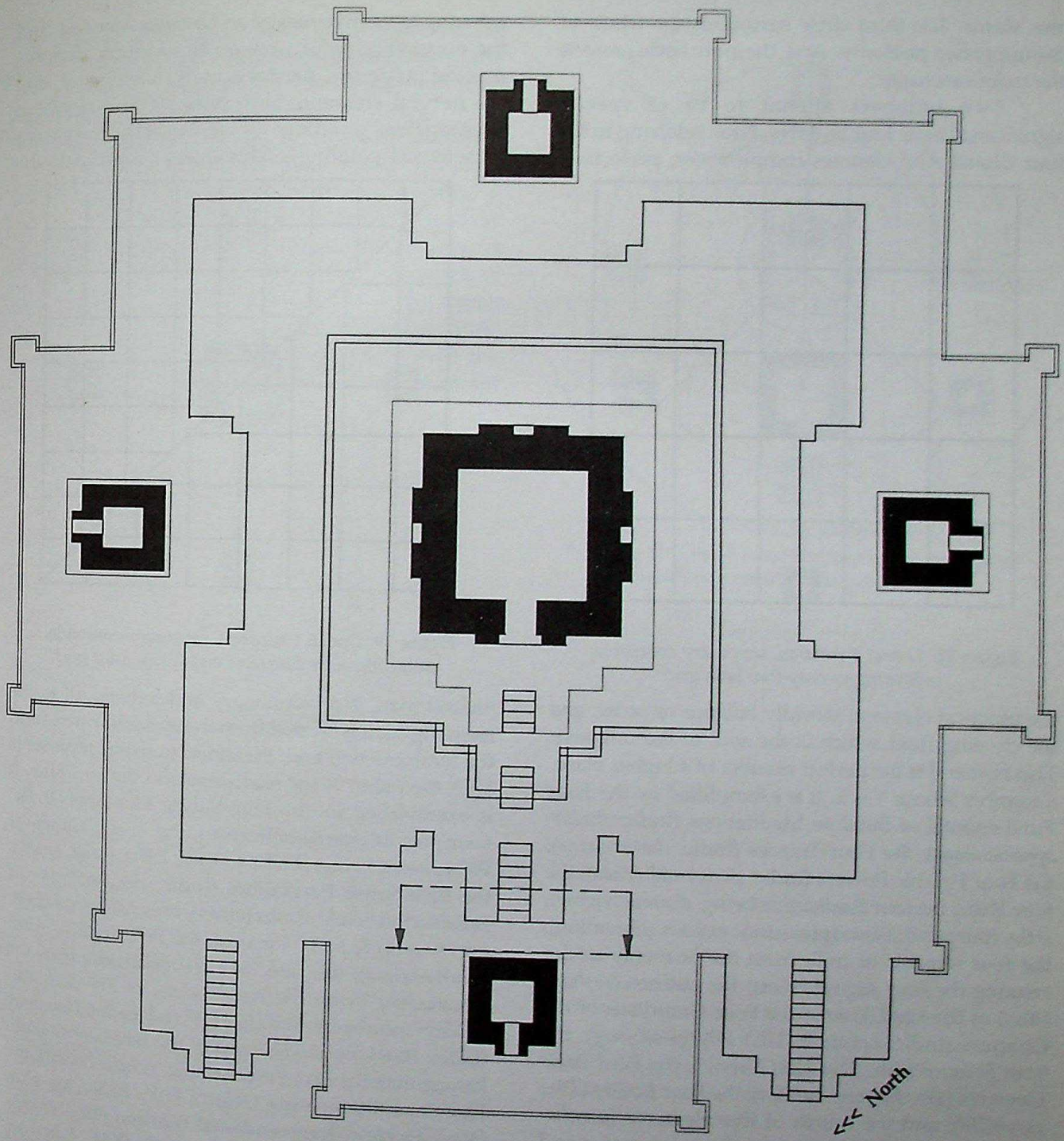
Figure 77: *Chandi Panataran*, ensemble layout

As with many of the temples within this study, the circular *Manduka Mandala* would appear to have some applicability to *Chandi Panataran* (See: **Figure 80**). The outer circle virtually the whole sanctuary ensemble. The exception being the extended entry face. The second ring encircles three of the subsidiary shrines. Again the exception is the shrine at the entrance side which has been moved forward to accommodate the steps to the main sanctuary. Nonetheless, this circle also include the altar end of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 38 -- *Chandi Panataran* Sanctuary



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

this shrine. The third circle surrounds the whole of the upper two platforms. And, the inner circle protects the main sanctuary.

Two numbers appear to be of special significance here: four and five. Four, referring to the four *Chandi Apit*, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas* being: *dharma* (virtue), *artha* (purpose), *kama* (pleasure), *moksha* (liberation); the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). As with the number two, the even number four is seen to be associated with the Moon. Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Five,

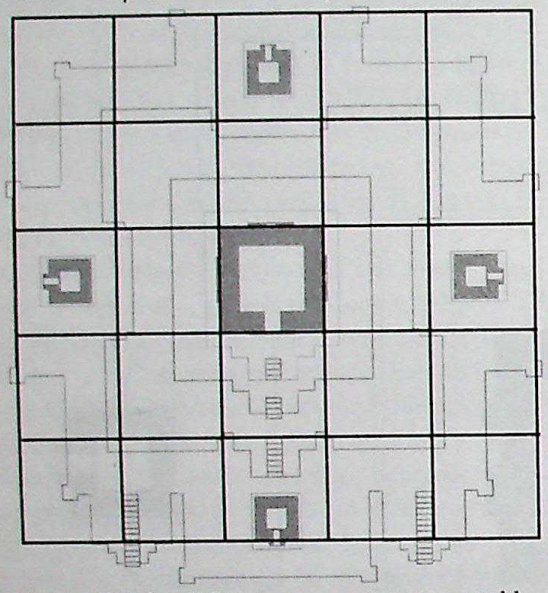


Figure 78: *Chandi Panataran*, sanctuary ensemble, indicating twenty-five *pada* grid

referring to the five *pada* of an *Upapitha Mandala* and the number of structures on the mount, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Failings or Weaknesses being: *ahmkara*, *moha*, *lobha*, *kama*, *krodha*; the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*) being: *akasha* (ether), *vayu* (air), *tejas* (fire), *apas* (water) & *prithivi* (earth); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major

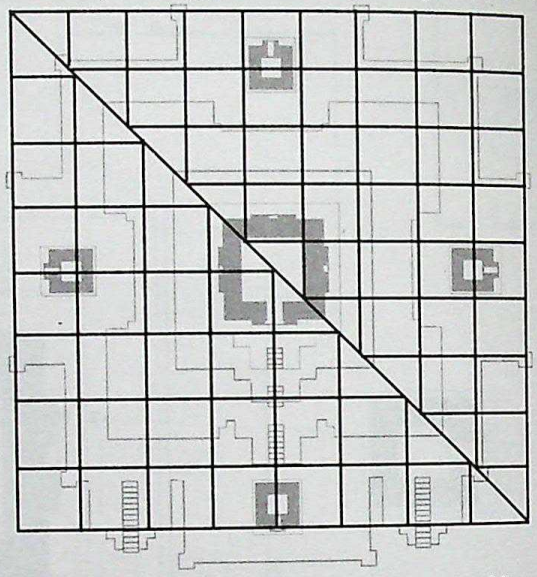


Figure 79: *Chandi Panataran*, sanctuary ensemble, indicating sixty-four and eighty-one *pada* grid

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*).

Whereas *Borobudur* represents, in its entirety, the Buddhist sacred Mount Meru, *Chandi Panataran* represents the Lord *Shiva's* sacred Mount Kailasha. Its apparent deviation from strict iconic design may in part be due to its later date--i.e., the forsaking of the strict adherence to the square for the rectangle or even the circle that becomes apparent in the region after the ninth century. It may also be due the strong Buddhist influence that Java enjoyed, or even the influence of the *vamachara*. Nonetheless, it is an apt icon in its totality.

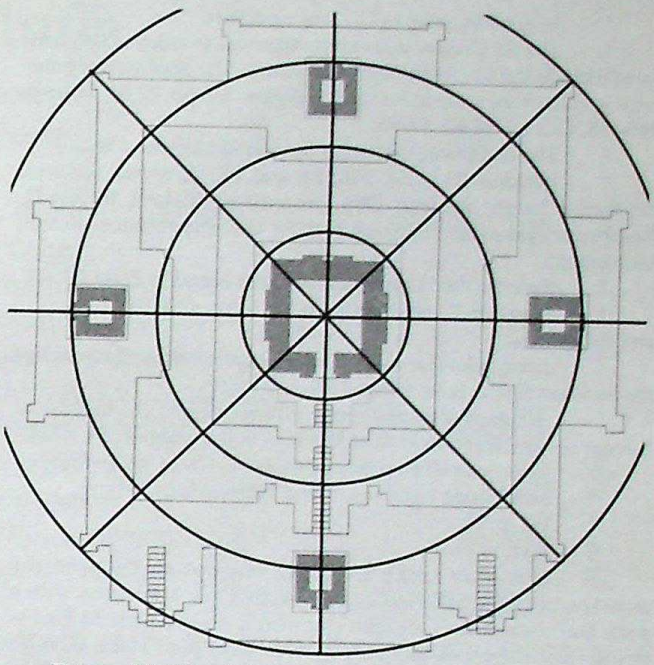


Figure 80: *Chandi Panataran*, sanctuary ensemble, indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Java, Indonesia)

1 In general, refer to GC among others.

2 The *Sri Vijayans* active influence was to reach as far north as to include the southern part of Thailand. The *Shailendra's* influence was likewise widespread in the region. SV, pp. 77-83; MB, pp. 145-158; GC, pp. 81-85, 87-93.

3 The exception, course, is the island culture of Bali.

4 Besides: JD I, JM, MB, PA and PR; Ariswara Sutomo. *Borobudur Temple*. Jakarta: 1994, as well as Wickert, Jurgen D. *Borobudur*. Jakarta: 1993, underline the importance of this monument.

5 Refer to the "Level" designations found in **Plate 29**.

6 **Levels 6, 7** and **8** are round in form, although not strictly circular.

7 Anagarika Govinda, (Lama), *Psycho-cosmic Symbolism of the Buddhist Stupa*, Emeryville: 1976.

8 In cases of numbers of multiple integers, the individual integer is considered as well as the sum of the integers. Cf. n. 24.

9 Computer drawn from: AG, p. 67. Cf. fn. 66, p. 48.

10 See: "Stupa Symbolism and Numerology," above.

11 JM. p. 52.

12 JD I, p. 14.

13 One may make a similar association between the massive, imposing, *St. Paul's Cathedral*, St. Paul, Minnesota, with a scale that dwarfs man, and the imminently human scale *St. Paul's-on-the-Hill*, a short distance away. Both have their place, both do not lessen the important of their existence. One is merely considerably larger than the other.

14 There is some minor differences regarding the dates of *Chandi Sewu*. JD I gives a date as c. 792 CE. PR assigns the date as mid ninth century. JM alludes to a pre-800 date by citing a "major renovation in about A.D. 800," p. 52.

15 PA, pp. 368-369.

16 *Ibid.*

17 AP makes a number of contradictory and confusing statements regarding the *Chandi Perwara* of *Chandi Sewu* (doubtless due to the character of the publication). First it lists "250 *Chandi Perwara*," p. 33; then on p. 38 it refers to "240 *Chandi Pervara* et les huit *Chandi Apit*." The plan presented from first hand observation and in accordance with the plan of JA, clearly shows 232 *chandi*. There are two flanking platforms on either side of the E-W & N-S axis between the 'first court and the "second court" amounting to eight. Do these eight account for the missing eight?

18 JM, p. 52 states that there are "240 more temples arranged in four concentric squares. . . (then) Foundations for eight more temples lay between the second and third squares."

19 Cf. fn. 24.

20 JM 52-53; JDII p. 14.

21 The bold face capitals refer to those in **Figure 63**, whereas the bold faced numerals refer to those found in **Plate 7**.

22 There is some minor differences regarding the dates of *Loro Jonggrang*. JD I pinpoints the date as after 856 CE, p. 53. PR states a. 900 and b. 930 CE. p. 250. MB gives the dates as between the middle of the ninth and the beginning of the tenth Centuries, p. 154.

23 The name of its administrative capital.

24 The bold faced, lower case letters refer to those found in **Figure 66**.

25 PA, p. 222, also identifies *Chandi Sewu* and *Chandi Jawi* as having three encircling walls.

26 It is always a question of how a monument is to be "restored" as opposed to being "preserved." An argument may be made for the restoration of *Loro Jonggrang's Chandi Perwaras* due to the fact that much of the original material is still *in situ*. However, the cost of such a restoration is indeed almost prohibitively expensive. Yet *Borobudur* was "restored!"

27 PR, p. 250.

28 The exception is the afore mentioned *Chandi Plaosan Lor*. Parallels may be found in the later: *Prasat Hin Phimai*, Khorat; the *Banteay Samre* shrine, Angkor; the *Paya-Thon-Zu*, Pagan; or the *ubosot* plans of Thailand.

29 The term "standard," noted as **S**, is used here to denote the shape and proportion of the central chamber of *Chandi Sari*. Further, the bold faced capital letters refer to those found in **Figures 72 & 73**; as well as **Appendix A, Plate 113.**

30 The bold case capital letters refer to those found in **Figure 72**. It is also of interest to note that a number of other temples conform to this 30^0 "standard"--e.g., The *Durga Temple*, including the porch (**Plate 19**); the *Tivanka Pilimage*, minus the entrance (**Plate 24**); the *Brahmeshvara Temple*, minus entrance (**Plate 25**); the sanctuary ensemble of the *Bayon* (**Plate 51**); and the *Nan-Hpaya*, including entrance (**Plate 53**).

31 There are many things that one with a Eurocentric upbringing finds difficult to comprehend in the Orient. Certainly, the *yab-yum* is one of them. The concept and the *Tantric* practice is, of course, initially sexual. But, the sexual coupling is not the end. The concept is the union of the male principle (Chin.: *yang*; Ind.: *shakta*; Tib.: *yab*) and the female principle (Chin.: *yin*; Ind.: *shakti*; Tib.: *yum*) within each of us--that union bringing us closer to the Ultimate Principle. The theoretical practice is not intercourse in the traditional sense--i.e., there is insertion, but upon insertion the position is held (in yogic-like practice) for a period of time without ejaculation and/or orgasm. During this union the participants are theoretically freed to allow their minds and spirits to join together with the Ultimate Principle, thereby, lifting them above the mundane.

32 MB asserts that Buddhism appealed more to the aristocracy, whereas Hinduism (*Shaiva* type) was more readily adopted by the lower socio/economic groups, p. 146.

33 In the sixteenth century, Northern Europe, the pink was an icon for the brevity of life and beauty. But when held in the hand of Diane de Poitiers, aged fifty +, it becomes the opposite symbol. So, too, the red rose which is a symbol for the passion of the Virgin Mary when she holds it, is also the symbol for sexual passion when Venus (Aphrodite) holds it. In both cases it is a symbol of passion--one of the spiritual variety and the other of the physical variety.

34 PR, p. 266.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Kambuja

(Cambodia)

The Khmer

Preah Ko, Roluos
Bakong, Roluos
Bakheng (mount ensemble), Angkor
Ta Keo (temple mount and surrounding enclosures), Angkor
Ta Keo (principle shrine), Angkor
Phimai Temple (*Prasat Hin Phimai*), Thailand
Banteay Samre Temple, Angkor
Baphuon, Angkor
Angkor Wat, Angkor
Bayon, Angkor Thom, Angkor
Bayon **Sanctuary**, Angkor Thom, Angkor

Along with the architectural glories of India, those of the Empire of the Khmers are of major importance. The complex of *Angkor Wat*, more than any other monument of this civilization is known throughout the world. Yet there are enumerable other complexes, monuments of equal beauty and grandeur which are virtually unknown except to those whose knowledge of the area is more than merely cursory. Marvels, such as the *Bakong, Bakheng, Baphuon* and the incomparable *Bayon* are little known, and, indeed, are some of the best kept secrets of this great empire. These structures are important, more for the overall understanding of these people than the discovery of the *Tomb of Tutankhamen* was for the understanding of the Egyptian civilization. Yet they remain in the deep shadows, victims of mass cultural myopia as well as in economic and political doldrums.

Numerous important studies[1] have been undertaken over the past one-hundred-fifty years, primarily French, which have seen the dim light of limited academic publication, but not the brilliant glare of general public knowledge and awareness. The one possible exception was the reclaiming of *Angkor Wat* from the embrace of the tropical forest and its restoration.

The Khmers were a people who rose, ruled and/or influenced a great deal of the central and eastern area known as Indochina before their ultimate decline. For the Eurocentric student *Angkor Wat* may well be the only reference known. Yet, there is much more. The Khmer were great engineers, particularly in the area of hydrology. They designed, constructed and maintained a vast system of canals, tanks and artificial lakes (Kam.: *baray*) which not only were an aesthetic accouterment to numerous temples and temple complexes, but undergirded their vast and productive agricultural system. More importantly, water to the Khmers was power, and was authority. He who controlled the water supply, controlled the country, and controlled the people. Ultimate control of the water was vested in the king--the *devaraj*. Apparently, they did not clear vast tracks of the tropical forest, helter-skelter. Where they did, the reclaimed land was put into productive and sustained agricultural use on a level that sustained their population for generations.

The Khmers had developed a system of government, based upon the *devaraj*, and produced a number of fine rulers who expanded the empire and sphere of influence. They were not particularly harsh by the standards of the time. Tribute was paid to the throne in the form of large amounts of fresh water, particularly from vassal states like Thailand where it was plentiful. When Sukhothai broke away from the Khmers, their first act of defiance was to halt the water tribute.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

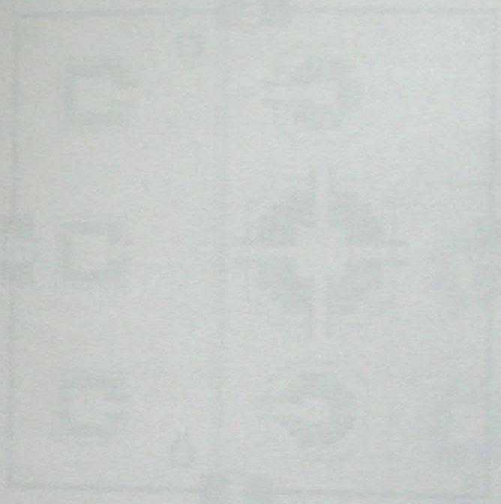
They were fairly tolerant, particularly to different faiths and local practices where they did not undermine the political *status quo* within their realm. Their religious orientation was Hindu, particularly amongst the ruling elite--a faith that not only supported but fostered the concept of the *devaraj*. It appears that the general populous was strongly Buddhist. The two faiths coexisted under an umbrella of mutual acceptance. In the last period, the reign of Jayavarman VII, the King's religious conviction turned towards Buddhism influenced by the increasing tendency of the populous. Nonetheless, Jayavarman's particular form of Buddhism (*Mahayana*) incorporated generous amounts of Hindu mythology, all of which focused on the memorializing of ancestors so important to the Khmer kings. The spread of Islam did not effect the Khmer empire or its religious predilections to any major extent as it did in the Javanese kingdoms to the south. Doubtless, this was due to its relative isolation in the east of Indochina and also due to the entrenched concept of the *devaraj* in the minds of the populous and certainly in the mind of the king.

Their renown circulated beyond their borders to the courts of China, Java, Sumatera and, of course India, among others. Various foreign embassies extolled the glories of these people. Yet, they did not spring un-nourished by the fertile soils of Southeast Asia, but built upon the empire of the Chen-la, and were heavily influenced by India and Java. Nor did they pass unnoticed by the cultures of the region as can be seen in their strong influence upon the later Thai cultures, particularly Sukhothai and the early Ayutthaya kingdom. They carried and transferred the seeds of greatness.

They were, of course, The Khmer.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Preah Ko

Roluos, a. 879 CE

(JB, BG, JD, JDII)

The temple complex of *Preah Ko* (*Prah Ko*) at Roluos (Hariharalaya) (See: **Appendix A, Plate 119**) is reputed to be among the first of the great architectural ensemble achievements of the Khmers. Begun in 879 CE by Indravarman as a monument to the memory of his ancestors, particularly Jayavarman II, it presages what is to develop in formal design--the Khmer interpretation of the sacred mount-temple. It does not strictly adhere to the cross-axial *mandala*-plan of India--e.g., as is seen in the Indian *Stupa I* at Sanchi, *Ladh Khan* of Aihole, etc.--but anticipates later Khmer predilection towards axial orientation (See: **Appendix A, Plates 120 & 122**).

The outer and inner precincts are based on the square, the inner being offset towards the west. The three front shrines (**1, 2 & 3**)[2] are symmetrically aligned only on the east-west axis, the central shrine (**1**) (See: **Appendix A, Plate 118**) being set back from the flanking shrines (**2 & 3**) (See: **Figure 81**). The central shrine's (**1**) back wall falls on the cross-axes of the inner square (**A-B**). The front wall of the two

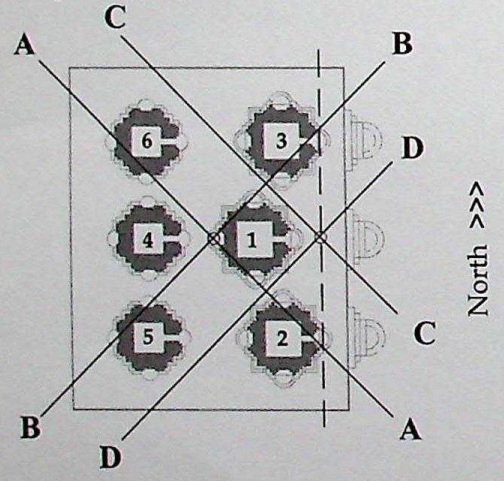


Figure 81: *Preah Ko*, principle terrace indicating: inner enclosure (A-B) & outer (C-D) enclosures centers

flanking shrines (**2 & 3**) fall on the cross-axes of the outer perimeter wall (**C-D**). The shifting of the inner square towards the west may relate to the importance of the west iconically and also may be related to the position of the *garbha-griha* in the Indian models (See: **Plate 19**), and certainly mirrored in the shrine ensemble of *Loro Jonggrang* (See: **Figure 82**).

The rear three shrines (**4, 5, & 6**) are aligned on a north-south axis, generally behind the front shrines.[3] These three smaller shrines are dedicated to the queens. Their placement to the west of the 'front' three shrines, places them, of course, behind the male shrines. In addition the male shrines are towards the male east, whereas the queen shrines are towards the female west. It is a subtle differentiation and placement to be sure. Finally, of note, is that the low

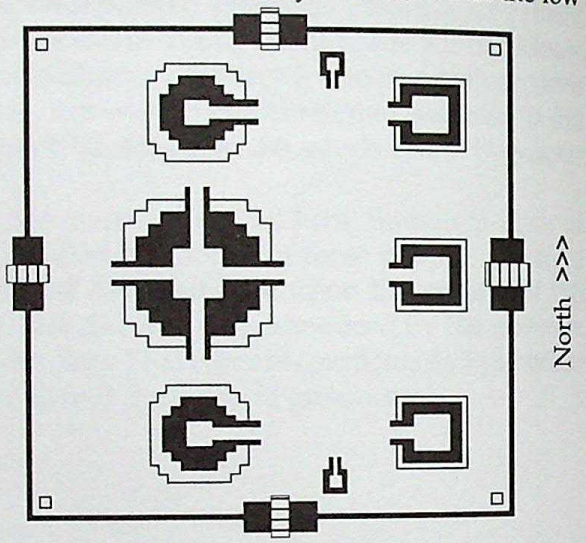


Figure 82: *Loro Jonggrang*, principle terrace

platform on which these six shrines rest is rectangular and not square.

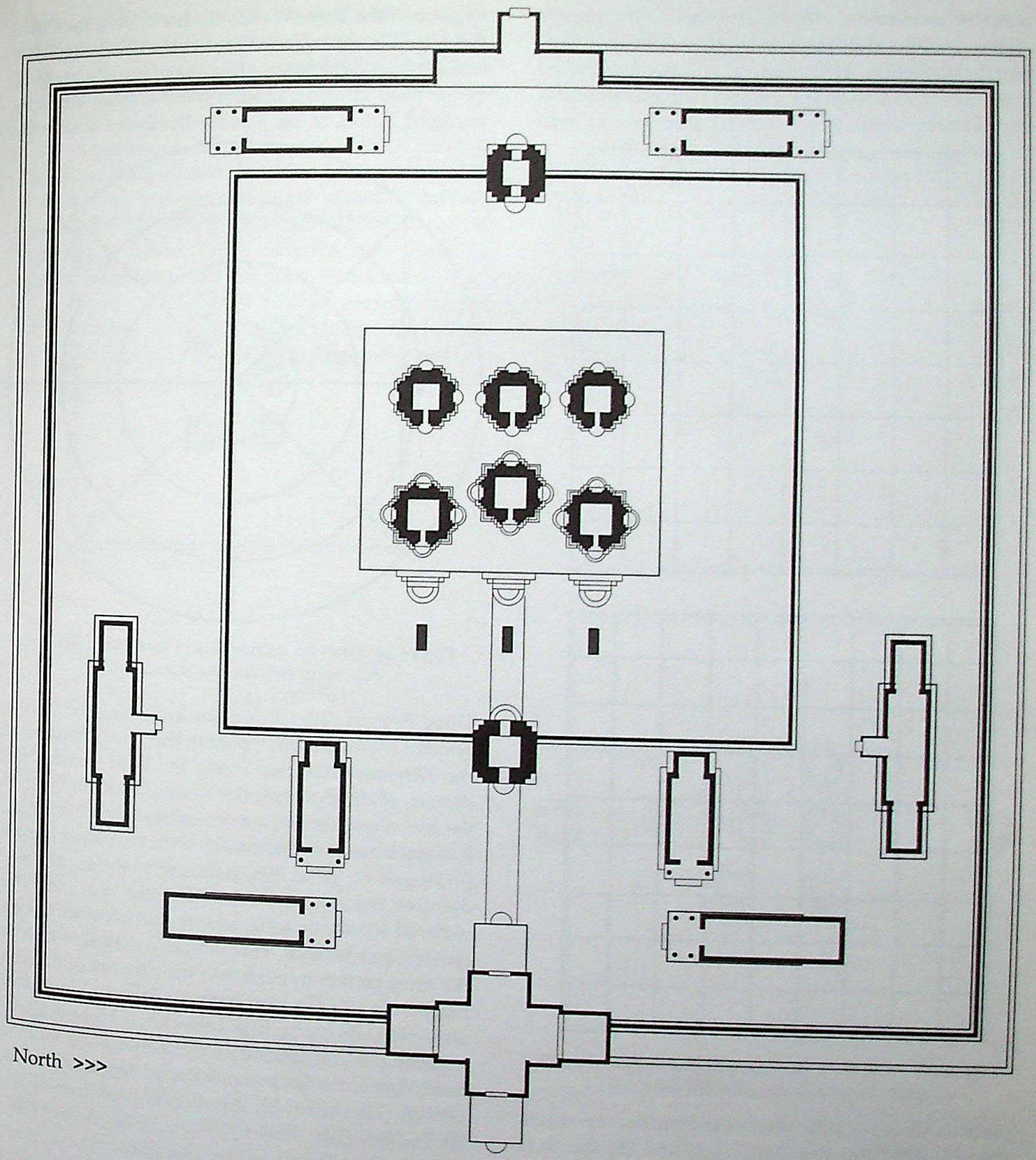
The individual shrines are rather strict interpretations of Indian archtypes as derived through the influential Javanese culture, which adhere to either the *Manduka Mandala* or the *Paramashayika Mandala*. The inner ensemble appears to finds its genesis from one of three *mandalas*. The *Manduka Mandala*, the *Paramashayika Mandala*, or the circular *Manduka Mandala*. The *Manduka Mandala* (See: **Figure 83 [top]**) shows the *garbha-griha* of shrines 1 and 4 within the *Brahmásthana;* while the sanctuaries of the other four rest within the second rank. The *Paramashayika Mandala* (See: **Figure 83 [bottom]**), on the other hand, displays the *garbha-griha* of the six shrines within the *Brahmásthana*. In the application of the circular *Manduka Mandala* (See: **Figure 84**) the shrines (**1**) and (**4**) are entirely enclosed within the inner circle and elements of the other four are as well. The plinth upon which the six rest falls within the next circle, while the inner spaces of both east and west entrance pavilions are included within the third circle.

Two numbers appear to be of importance: three and six. Three, referring to either the three male shrines (**1, 2 & 3**) or the three female shrines (**4, 5 & 6**),

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 39 -- *Preah Ko* Ensemble



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd

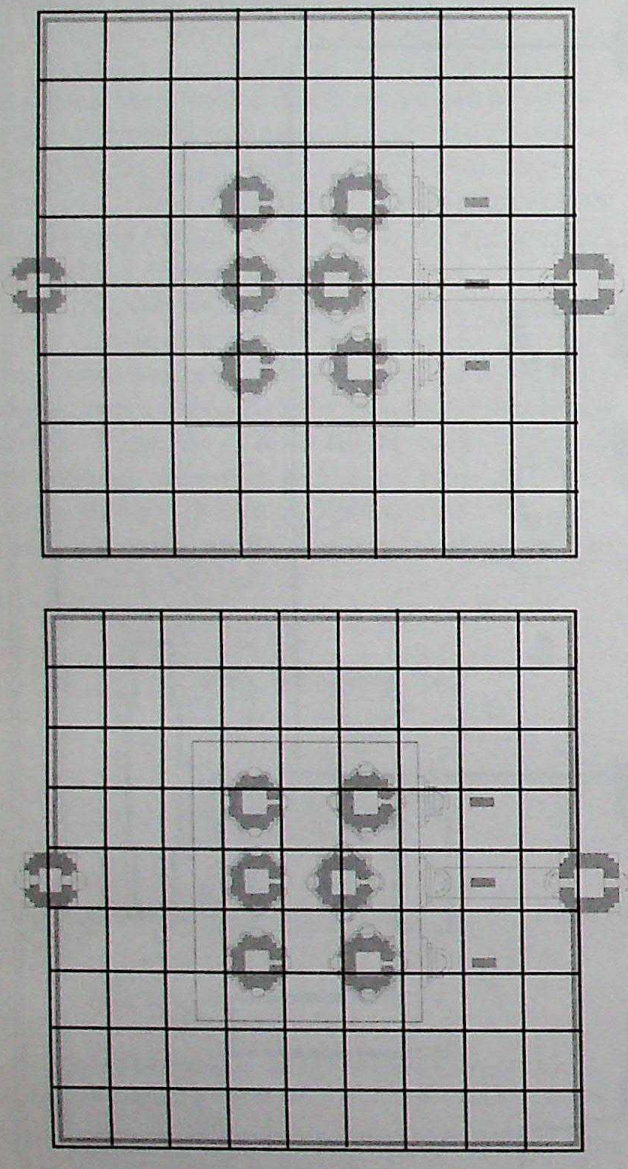


Figure 83: *Preah Ko,* inner ensemble, *Manduka Mandala* (top), *Paramashayika Mandala* (bottom)

number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit) being: *dharma, artha, kama*; the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the

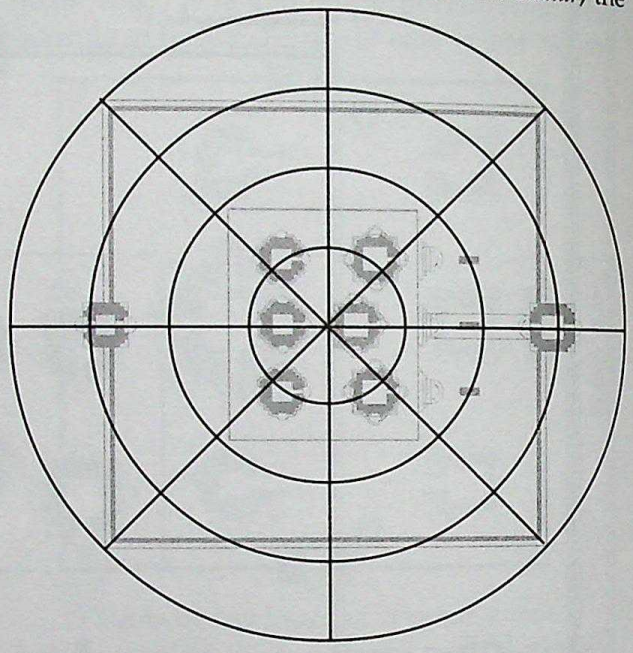


Figure 84: *Preah Ko,* principle and secondary terraces, indicating circular *Manduka Mandala*

Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*), the *sangha*; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Six, referring to the six shrines, denotes the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. This integer is considered to be the most perfect number and the product of the first male and female numbers signifying universal attraction. As such, it is considered to be a lucky number. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu*; the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*); the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Preah Ko (Concluded)

astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra*.

Additional iconic significance is to be found in the cult of the ancestors which underlies the concept of the *devaraj*. The later complexes with their terraced mounts, the stepped pyramid representing the sacred and cosmic Mount Meru, rely strongly upon the mystical combination of numbers. Nonetheless, *Preah Ko, en plan*, presents a viable preface to the architectural variations that are to follow. Each being a *magnum opus* in their own right. Beginning with the *Bakong* (881 CE), proceeding through the *Bakheng* (893 CE), the *Pre Rup* (961 CE), the *Ta Keo* (c. 1000 CE), the *Baphuon* (1050 CE), the *Angkor Wat* (a. 1113 CE), and culminating in the *Bayon* (c. 1200 CE), all owe much to this complex, a stylistic and conceptual predecessor.

However, *Preah Ko* owes much to the central Javanese complex, *Loro Jonggrang* at Prambanan (See: **Figure 82**), particularly as a precedent for the three main shrines. Whereas at *Loro Jonggrang* the principle shrines are set to the west, at *Preah Ko* they are to the east. Nonetheless the standard had been set and adapted to the *devaraj* concept by the Khmer. Nonetheless, as one of the earliest, major architectural endeavors, *Preah Ko*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bakong

Roluos, a. 881 CE

(BG, PR, MB, JA, JD, JDII)

The formal model of *Preah Ko* became for Indravarman's builders the basis for *Bakong* at Roluos (Hariharalaya) (See: **Appendix I, Plate 119**). Its *raison d'etre* was to commemorate the King's rule as well as his philosophic stance--i.e., he was a *Shaiva*. The *linga Indreshvara*[4] which was enshrined within the uppermost structure had become the symbol of the King's association with the divine and further established his claim to be *devaraj*[5]--which earlier had been promulgated by Jayavarman II. *Bakong* as the *Preah Ko* was a corporeal manifestation of the sacred Mount Sumeru or, more appropriately, Mount Kailasha. It represented the abode of the deity and by association that of the *devaraj* as well.

The whole of the *Bakong* ensemble is axial, oriented east to west. The five stepped-pyramid form is essentially, although not strictly, cross-axial, rising some forty-seven feet above the level ground, and upon which the major sanctuary was erected. The whole temple ensemble is enclosed by a rectangular girdle-wall and further by appropriate moats. Within

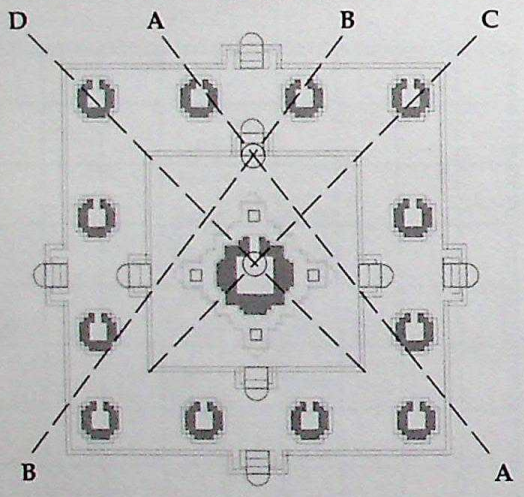


Figure 85: *Bakong*, fourth & fifth terrace with shrines and principle sanctuary, indicating center points

the sacred precinct are eight duplicate base-shrines, two each, oriented to the four cardinal points of the compass. Each of these eight base-shrines rests upon a three tiered base and are all oriented towards the east. It is to be noted that the eastern two base-shrines are set closer to the base platform of the mount and are spaced wider apart than the western two which are closer to each other and further from the base terrace. Set in from these eight shrines is a five-stepped pyramid/mount whose plan resembles a *triratha*. Each of the terraces possesses four staircases oriented to the cardinal points. On the first three levels stand royal elephants as if their weight held the corners in place. Upon the fourth, the penultimate terrace, rest twelve

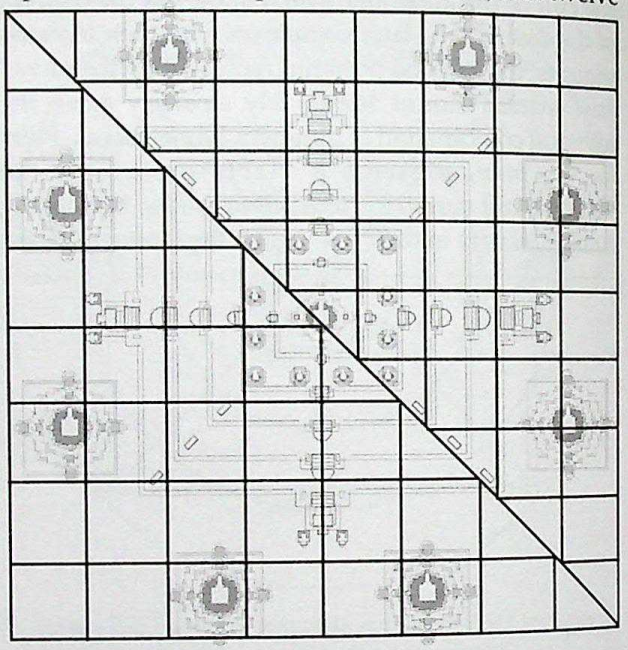


Figure 86: *Bakong*, major sensemble, indicating *Manduka Mandala* and *Paramashayika Mandala*

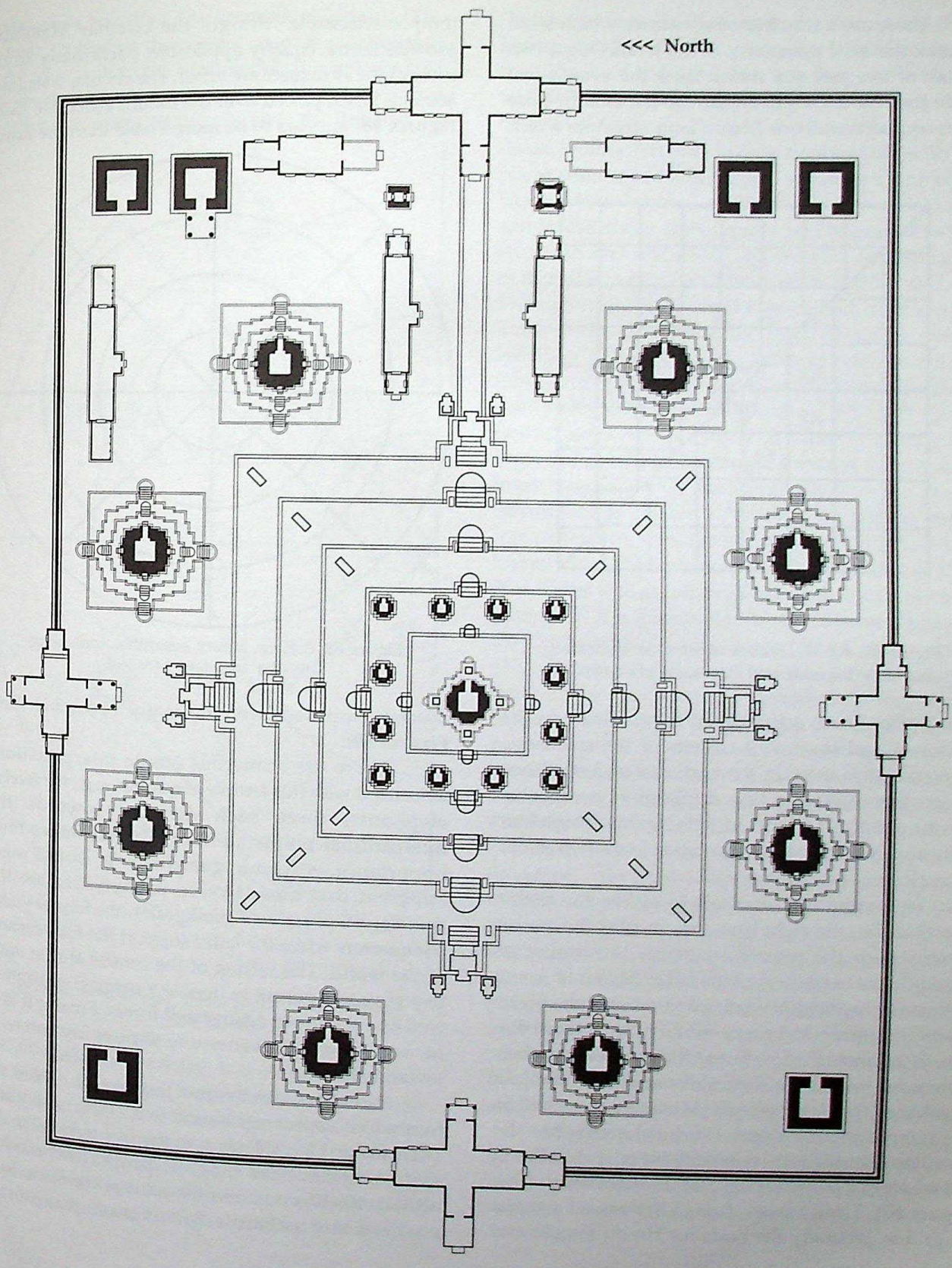
smaller shrines (See: **Figure 85**) amounting to four on each face. The uppermost terrace, the fifth, supports the principle sanctuary in which the *linga Indreshvara* was enshrined. The sanctuary is cross-axial in design, with its portal facing the east and set back, to the west, from the central axes of this platform. The whole of the temple mount is set to the west of the cross-axes of the girdle wall, noted in **Figure 85, A & B**.[6] The vertical axis is not in the center of the principle shrine's *garbha-griha*, nor in the western half of that space, but at the entrance to the *garbha-griha*, the eastern half--i.e., the sun's realm, the, masculine direction or area.

The central shrine on the fifth terrace is set, not in the center of the terrace, but towards the west. The holiest of directions, the feminine west, the sacred womb, the *garbha-griha* is virtually always found in the western portion of a sacred structure. All the elements of the mount which fall west of the north-south axis are likewise shifted to the west. It is to be noted that the north-south entrances are similarly aligned.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 40 -- *Bakong* Ensemble



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

There are a number of structures which seem to break the axial symmetry of the whole--e.g., two shrines of unequal size which flank the avenue just inside the east entrance, and to the left (south) close to the southern wall one finds a long structure which faces north. There are, further, two shrines, in the northwest and southwest corners of the enclosure, oriented east to west. In the northeast and southeast corners there seems to be a duplication, except that here the shrines are doubled, side by side. These four shrines are in an opposite orientation to the two across the enclosure--i.e., west to east.

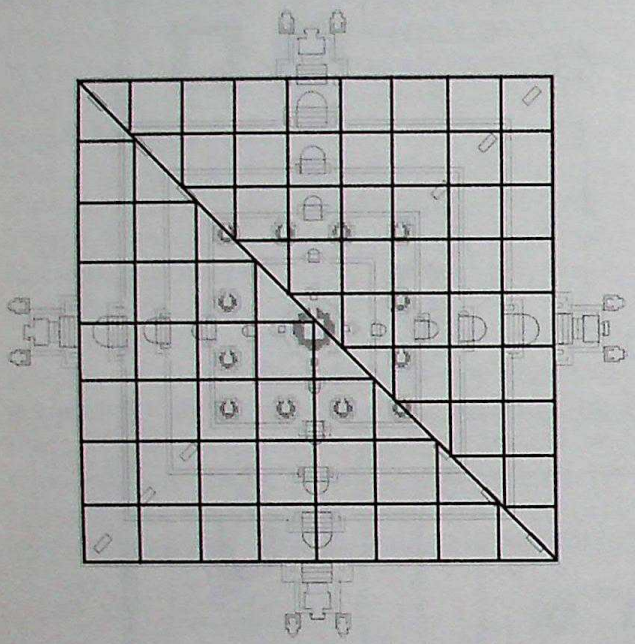


Figure 87: *Bakong*, mount sensemble, indicating *Manduka Mandala* and *Paramashayika Mandala*

In assigning a *mandala* to either the major ensemble--i.e., the eight base-shrines plus the mount ensemble--or the mount ensemble, a number of possibilities arise. A *Manduka Mandala* or a *Paramashayika Mandala* when imposed over the major ensemble appears to be a possibility (See: **Figure 86**). In both instances the fourth and fifth terrace with their shrines fall within the *Brahmásthana*. If the *Manduka Mandala* or the *Paramashayika Mandala* are applied to the temple mount alone, it would seem that the *Manduka Mandala* is more acceptable as it includes in the whole of the fifth terrace and the main shrine (See: **Figure 87**). Finally, even though the square *mandala* or grid is generally the basis for Hindu temple and temple ensemble design, the circular *Manduka Mandala* seems equally applicable, particularly since some of the structures are offset. The circular *Manduka Mandala* when placed over the mount ensemble (See: **Figures 88**) appears to be more viable than the same *mandala* imposed over the major ensemble (See: **Figures 89**).

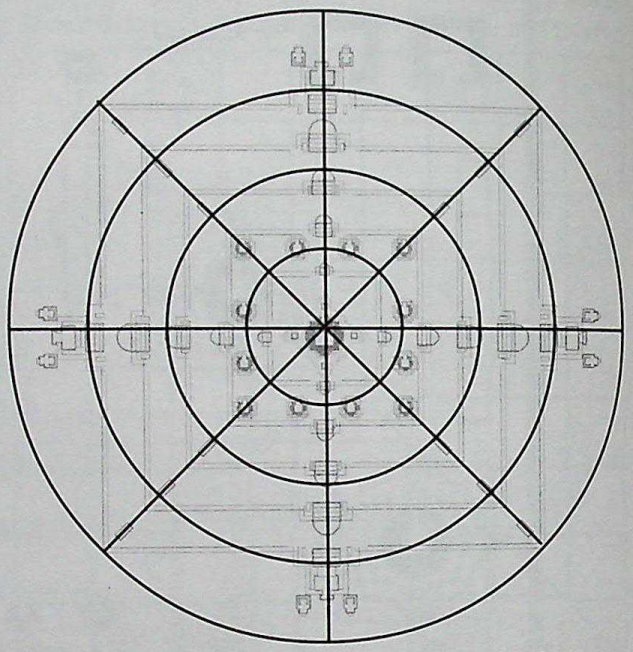


Figure 88: *Bakong*, mount ensemble, indicating circular *Manduka Mandala*

There are numerous iconic interpretations associated with this temple ensemble--e.g., the twelve elephants, three each directed towards the intercardinal points additionally buttresses their importance as cosmic guardians. It would seem apparent that these twelve pachyderms are the *Ashtdiggajas* plus the *Chaturdiggajas*--the former guard the quarters while the latter support the four corners of the world. The raising of the central shrine upon five terraces appears to denote a magical concept as well as a statement against evil forces. Finally, it is to be noted that all twenty-one shrines are oriented towards the east.

Numbers also assume importance. There are four which appear significant: five, eight, twelve and twenty-one. Five, referring to the five terraces of the mount, symbolizes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the

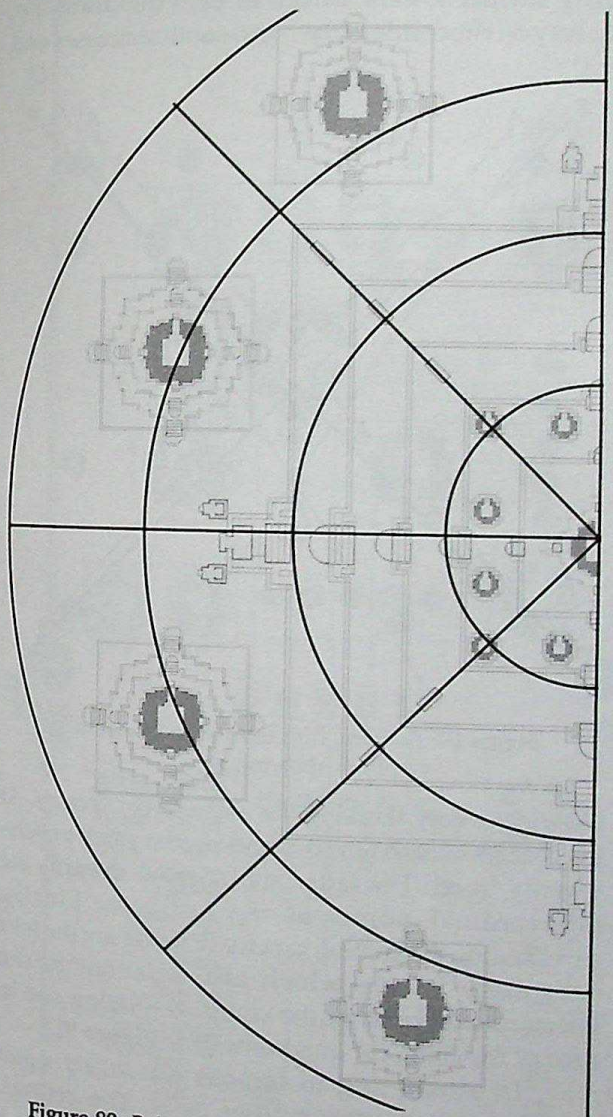


Figure 89: *Bakong*, half, major ensemble indicating circular *Manduka Mandala*

masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Eight, referring to the eight base-shrines, symbolizes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Twelve, referring to the shrines of the fourth terrace, denotes sacrifice and is related to immortality. This numeral is: a cosmic number 12 x $30 = 360^0$ as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. Twenty-one, referring to the total number of shrines in the major ensemble, denotes perfection, and success. It is related to the cycles of the moon, 3 x 7 = 21 in this instance all three numbers are masculine, as well as the twenty-one *Taras*. As a compound number it is associated with: the Moon (*Chandra* or *Soma*) and the Sun (*Ravi* or *Surya*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*).

En plan, notwithstanding, the whole of *Bakong* is axial and indicates its Indian ancestry as well as a potent and viable debt to the great *Borobudur* which had been begun some one-hundred years prior.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bakheng

Angkor (Yasodharapura), a. 893 CE

(BG, JA, JD, JDII)

The obvious influence of the Javanese Shailendra dynasty is manifest in the *Borobudur*-like *Bakheng* (*Phnom Bakheng*) of Angkor (Yasodharapura) (See: **Appendix A, Plate 126**) built by Yashovarman, a descendent of Jayavarman II--the latter having spent a great deal of time in the Shailendra court. The mount ensemble of the complex at *Bakheng*, constructed after 893 CE, is quite naturally oriented towards the east. This complex, whose immediate formal predecessor is acknowledged to be the *Bakong* of Hariharalaya (a. 881 CE), is a logical continuation of the representation of the sacred Mount Meru or Mount Kailasha and further possesses a remarkable and obvious association with cosmic-lunar forces.

Constructed upon a natural hill, *Bakheng* is composed of forty-four ground level shrines, sixty small shrines arranged on five terraces, four larger shrines on the uppermost plinth surrounding the main, central sanctuary, a quincunx arrangement. This whole ensemble is enclosed within a girdle wall.

It appears, on the outset, that *Bakheng* is cross-axial in its plan. The central shrine is aligned on the cross axes of the four subsidiary shrines. The five, in turn are centered on the east-west and north-south axes of the four entrances. However, upon closer scrutiny the five-tower/shrine sanctuaries are seen to be set westward from the cross axes of the temple precinct's girdle wall (**C-C^1**)[7] and nearly on the north-south axis of the eastern two upper platform shrines (See: **Figure 90**). The main sanctuary, centered within the four enclosing shrines, is aligned on the cross-axes of the corners of the outer forty-four shrines (**A-A^1**), but westward from the cross-axes of the five ascending terraces (**B-B^1**). The axes of the four tower/shrines are not aligned on axes of the outer forty-four shrines but are on the topmost platform's corners. The shifting of the central axis of the tower/shrine sanctuaries moves these structures towards the west--the moon, night, darkness the womb, the feminine, the *garbha-griha*. The feminine symbolism is obvious and becomes more obvious as the macro-icon revolves around the Moon and its cycles.

Surrounding the terrace mount at ground level are forty-four larger shrines, eleven in each quadrant. Within each quadrant there are two on a platform which is oriented east-west and two on a platform which is oriented north-south. There are seven shrines which bracket the corners of the temple mount--four on north-south oriented platforms and three on east-west oriented platforms. All of these forty-four shrines are facing the east. On the five terraces are to be found sixty smaller towers, fifteen in each quadrant--i.e., twenty on either side of the north-south staircases and,

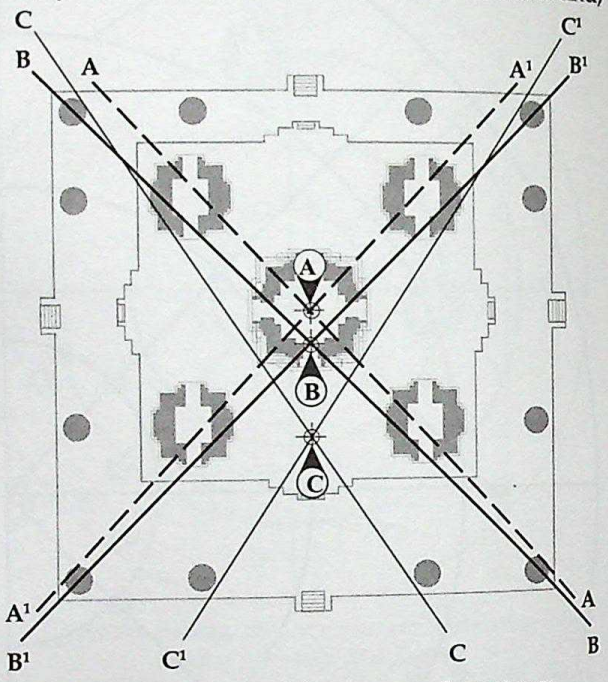


Figure 90: *Bakheng*, fifth terrace and sanctuary plinth showing axes

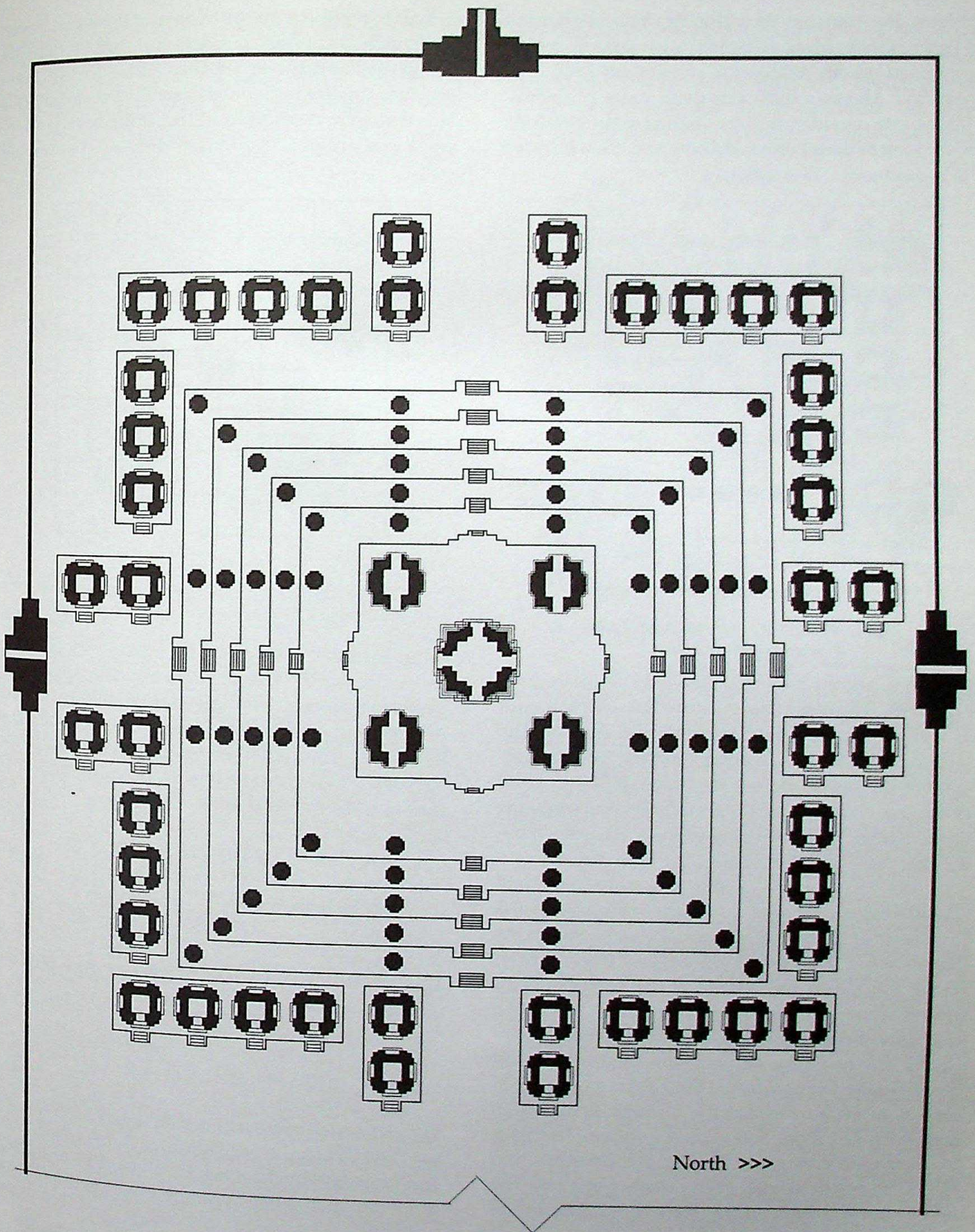
likewise twenty flanking the east-west staircases. At the corners of each terrace stand similar small towers--twenty in all. The latter are oriented towards the intercardinal points of the compass. Finally, surrounding the central, sanctuary tower are the four subsidiary towers which also oriented to the intercardinal points of the compass--placing one in each of the compass' quadrants (See: **Figure 91**).

In attempting to impose a *mandala* upon *Bakheng*, several possibilities exist. The central, topmost shrine fits comfortably within either a *Manduka Mandala* or a *Paramashayika Mandala* (See: **Figure 92**). The same can be said about the other shrines of this mount. Similarly, the upper plinth with its quincunx arrangement, also falls easily within the confines of either a *Manduka Mandala* or a *Paramashayika Mandala* (See: **Figure 93**). If one considers the major ensemble and overlays a *Manduka Mandala* or a *Paramashayika Mandala* (See: **Figure 94**) there appear a number of problems. The five upper

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 41 -- *Bakheng* Ensemble



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

shrines, the quincunx fit within the Brahmásthana of a *Paramashayika Mandala*, but the other terraces are not contained wholly within the subsequent *padas*. The *Manduka Mandala* indicates even more problems. Taking into consideration the shifting of the quincunx to the west as noted above, *Bakheng* also fits, with some

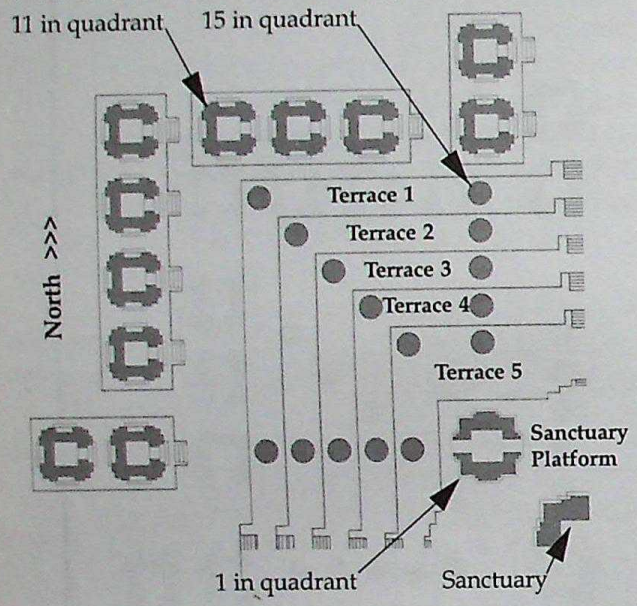


Figure 91: *Bakheng*, sanctuary ensemble, north-west quadrant

problems, within a circular *Manduka Mandala* (See: **Figure 95**). The outer ring encircles the temple mount as well as the forty-four surrounding shrines. The second circle virtually encompasses the five terraces--a bit of the eastern corners overlaps. With the offset of the five terraces, the third circle encompasses the upper terrace. The inner ring protects the quincunx--the sanctuary and the cellas of the four shrines.

As would be expected numerological considerations become quite important. With the forty-four ground-level shrines, the sixty towers on the pyramid's five terraces and the four larger shrines on the top plinth, one arrives at one-hundred-eight towers, twenty-seven in each quarter. When the sanctuary shrine is considered--since it is the locus of all the surrounding shrines--the number is then twenty-eight. In considering the eleven ground level shrines of each quadrant the number seven again reappears--i.e., if one sets aside the shrines, two each on their own platforms, flanking the east-west and the north south access, seven shrines remain. The seven shrines which bracket the corners then would appear to represent the seven days of the week. Seven again appears of one considers the shrines flanking the access and the ascending stairs to the main sanctuary platform--i.e., two ground level shrines (the two that were disallowed in the immediately above consideration) plus five terrace shrines. The number

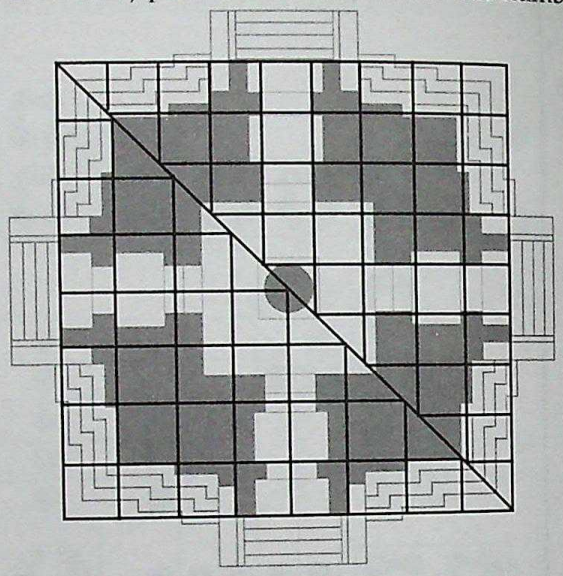


Figure 92: *Bakheng*, cross-axial sanctuary plan indicating sixty-four and eighty-one *pada* grid

seven is further underlined by the seven levels--i.e., ground level, the five terraces and the uppermost platform upon which the quincunx shrines are placed. All these numbers are associated with the moon and its lunar cycles. Another number which becomes obvious when considering the various quadrant shrines is the numeral nine.

Ground	4 x 11	= 44	4 + 4	= 8
Terrace	4 x 15	= 60	6 + 0	= 6
Upper plinth	4 x 1			= 4
Total		27	108	18

These totals when reduced to a single digit produce nine:

27	(2 + 7)	= 9
108	(10 + 8) = 18 (1 + 8)	= 9
18	(1 + 8)	= 9

The sixty small tower-shrines on the five terraces are seen to refer to Jupiter (*Brihaspati* or *Guru*), a *Navagraha* and its cycle. Finally, it has been noted by a number of sources that as one approaches any of the façades

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of the temple-mount thirty-five shrine-towers are observed--thirty-three of stone and two of brick.[8] Thirty-five is not particularly propitious for the Hindus, but it is an important number within the Buddhist tradition (referring to the Thirty-five Buddhas of Confession [Tib.: *bDe-gShegs So-lNga*]). However, if one considers only the thirty-three stone towers, the thirty-three built of permanent material, then we have the habitations for the gods.

There are eight numerals which appear important: five, seven, nine, twenty-eight, thirty-three, forty-four, sixty and one-hundred-eight. Five, referring to the quincunx of the upper level, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Failings or Weaknesses being: *ahmkara, moha, lobha, kama, krodha*; the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: Ye-*shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Seven, referring to seven shrines which bracket the corners, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven

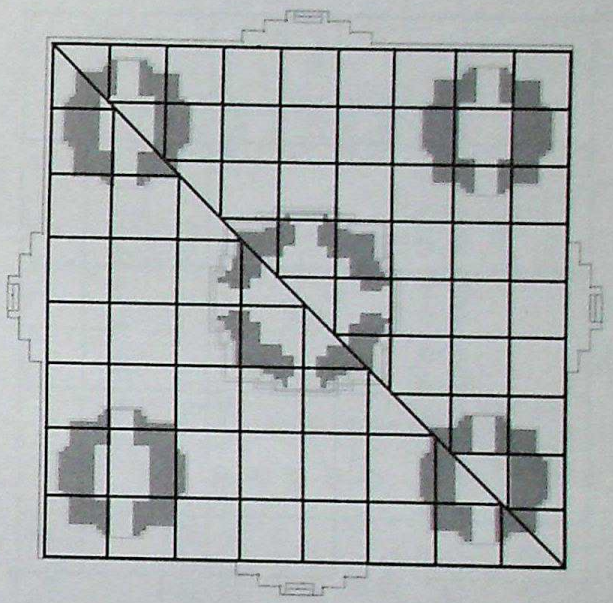


Figure 93: *Bakheng*, sanctuary platform indicating sixty-four and eighty-one *pada* grid

horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka, sapta-para, sapta-dwipa, sapta-arania, sapta-samudra*; the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Nine is the number of completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion and space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*;

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

nava-nadis; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation

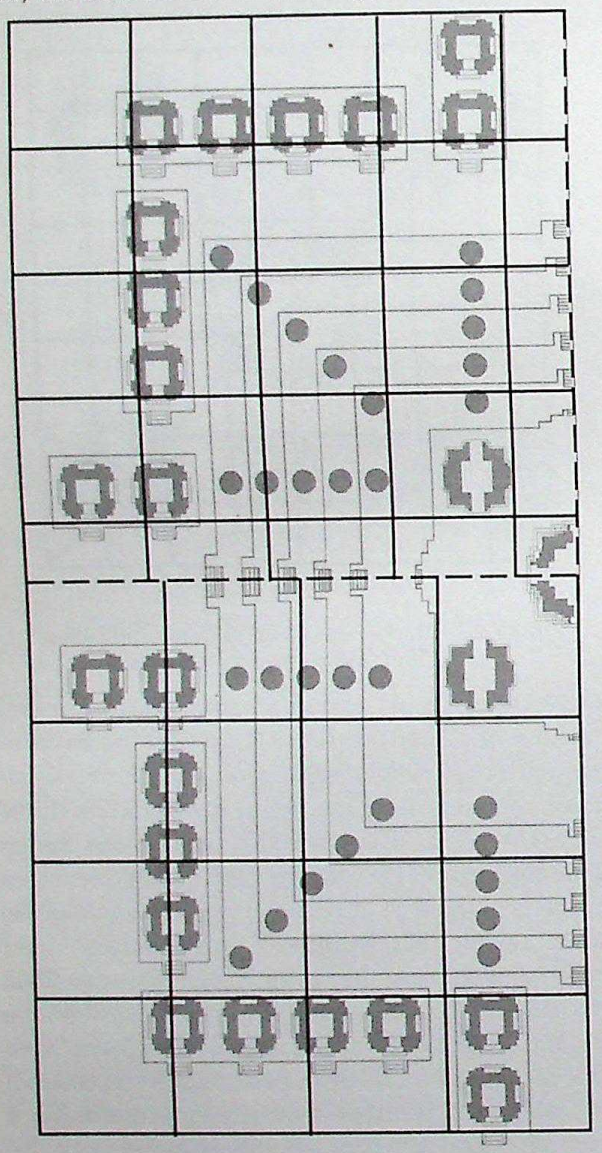


Figure 94: *Bakheng*, major ensemble, southern half indicating *Paramashayika Mandala* and *Manduka Mandala*

period of the human being. It is associated astronomically with the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Twenty-eight is a number that is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*, *kamasugati-bhumi* and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*). Thirty-three denotes perfection (two three's), and completion. It is exemplified in: the thirty-three deities of the *Vedas*--eight *Vasus*, eleven *Rudras*, twelve *Adityas*, *Indra* and *Prajapati*, and the number of vertebrae in the spinal column. As a compound number, it is related to: the planet Jupiter (*Brihaspati* or *Guru*). When reduced it produces six and, therefore, the planet Venus (*Shukra*). Forty-four, referring to the ground-level shrines, denotes success, completeness and perfection. This number underlines preparation, perfection and completion. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon). When reduced it produces eight and, therefore, the planet Saturn (*Shani*). The number sixty refers to a complete cycle of time--being made up from the macrocosmic six times ten, the number of cosmic perfection. It is embodied in: the believed cycle of Jupiter (sixty years), the sixty elements which constitute the way through the three worlds (*Triloka*), and the sixty levels of human development. Finally, the numeral one-hundred-eight, referring to the total number of towers, is exemplified in: the number of units in the Buddhist rosary; the number of *gopis* who danced for *Krishna*; the product of nine *niddhis* (money) times twelve *siddhis* (power); the four lunar phases; one-hundred-eight Cravings (Pali: *tanha*); and one-hundred-eight Feelings (Pali: *vedana*). As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) and the planet Saturn (*Shani*). When reduced it produces none and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*).

Bakheng is not only a manifestation of Hindu cosmology and a memorial to the moon, it is also to be noted that it is subtly related to the sun. Since it is located well below the Tropic of Cancer, much of the year the sun shines on all four faces not only of the whole mount but most particularly on the open facades of the sanctuary shrine, a no mean secondary consideration. *Bakheng*, however, is seen as primarily a lunar calendar--i.e., the twenty-seven lunar mansions (days), times the four phases of the moon, equaling one-hundred-eight.[9]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bakheng (Concluded)

Built to commemorate, even substantiate the concept of the *devaraj, Bakheng* is strangely feminine in its content: the whole mount ensemble is oriented towards the feminine west; feminine numbers appear in the forty-four ground-level shrines, the sixty terrace shrines and the four shrines of the quincunx as well as the four quarters; and the relation or apparent close association with the feminine moon. Yet, the masculine content is not to be denied and seems to ultimately dominate the whole ensemble: the importance of the masculine numbers five, seven and nine; the dedication to the concept of the *devaraj*; the tall central sanctuary tower which is seen as the physical manifestation of the *linga*; and the open four facades of the uppermost sanctuary which, in a sense denies the *garbha-griha* concept of most shrines.

The Hindu monument of *Bakheng, en masse*, represents a close parallel to the Buddhist *Borobudur* (760-830 CE) of central Java as a corporeal representation of the cosmic Mount Meru or Mount Kailasha. Not only does this concept find realization in the plan of the temple-mount, but also in its elevation. The structure appears to reach to the heavens.[10]

It is in many ways it is more than a mere adaptation, but a reinterpretation of a mutual concept infused with Hindu cosmological doctrine. As a representation of the cosmic Mount Meru and/or Mount Kailasha, *Bakheng* sets a standard built upon by successive structures, concepts and techniques. As an astronomical/astrological representation it is unique in its scope. And, as a home of the gods *Bakheng*, likewise, sets a new and comprehensive standard. It is, in all respects, a monument which expresses the Khmer's might and accomplishment.

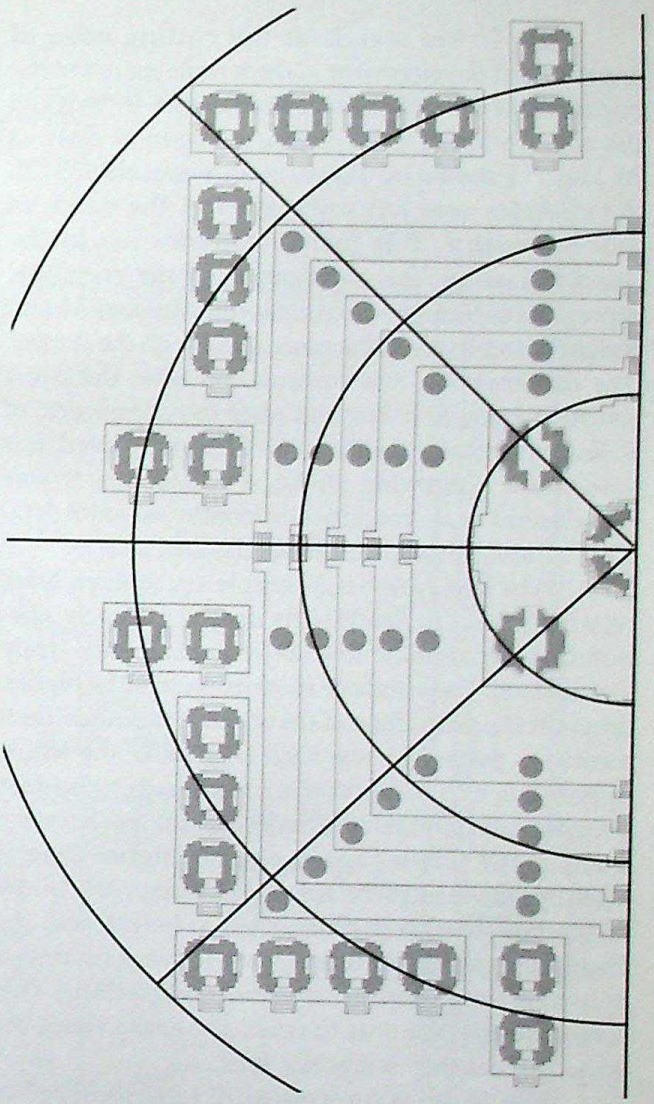


Figure 95: *Bakheng*, major ensemble, southern half indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ta Keo

Angkor, c. 975-1050 CE

(JB, MB, JD, JDII)

The *Ta Keo* stands at the cutting edge of architectural development in the temple mount at the beginning of the Classical Age of Angkor. It "marked the culmination of a development begun as early as *Ak Yom*."[11] Initiated by Jayavarman V around 975 CE, the complex was left unfinished at the death of Suryavarman I. This temple complex marks the standardization, the codification of the corporeal representation of the cosmic Mount Meru or Mount Kailasha and its manifest association with the *devaraj*. The construction was commenced after the court returned from Koh Ker and after the completion of Rajendravarman's *Pre Rup* (961 CE). Interrupted, it is said, by a lightening strike, a bad omen, it was rededicated and construction continued until 1050 CE[12] when it was left unfinished.

Whereas, previous temple ensembles were relatively low *Ta Keo* lifts its central pinnacle one-hundred-twenty-nine feet above ground level--truly a mountain. Later temple mounts were to be higher, however the proportion of the width of the outer (first) terrace to the height was such as to make the whole appear taller. In addition, there were numerous other proportional 'tricks' which forced the perspective making the whole, again, appear higher than it actually was--e.g., each successive terrace, particularly of the last three, was diminished in height, and the four staircases of the upper three terraces narrowed in its long steep climb to the uppermost platform. This forced perspective was to make the entire ensemble *appear* higher than it actually was.

The *Ta Keo* is constructed of sandstone, rather than the brick core from which so many of its predecessors were composed. This too is an innovation. The mass, the scale of the whole is indeed imposing (See: **Appendix A, Plate 120**). Rising from its relatively flat surroundings, *Ta Keo* literally elevates Khmer temple architecture to new heights and by association the *devaraj* as well.

Consisting of an outer girdle-wall, rectangular in shape and set upon its own elevated terrace, the whole measures some one-hundred by one-hundred twenty meters. Within this outer wall is an inner, a second terrace, likewise, rectangular and encircled by a gallery; measuring some seventy by eighty-three meters. Upon this second terrace stand three receding terraces, one upon the next, which rise sharply. These three upper terraces stand westward from the central axis of the first two rectangular terraces (See: **Appendix A, Plate 120, b**). These three terraces are not square, but give the appearance of being so. The summit, as in the *Bakheng*, displays five tower-shrines in a quincunx arrangement. The four minor shrines oriented towards the intercardinal points of the

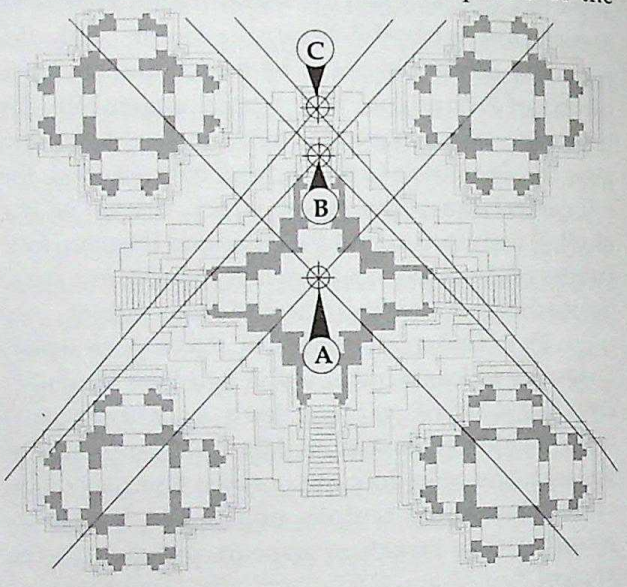


Figure 96: *Ta Keo*, upper terrace indicating axes: upper (A), second (B) and lower (C) terraces

compass. The central shrine, the repository for the *linga* associated with and dedicated to the *devaraj*'s divine right to rule, is of a cross-axial design as too are the four surrounding shrines. The five indicate a close relationship to the cross-axial shrines of India (See: **Appendix A, Plates 90 & 93**).

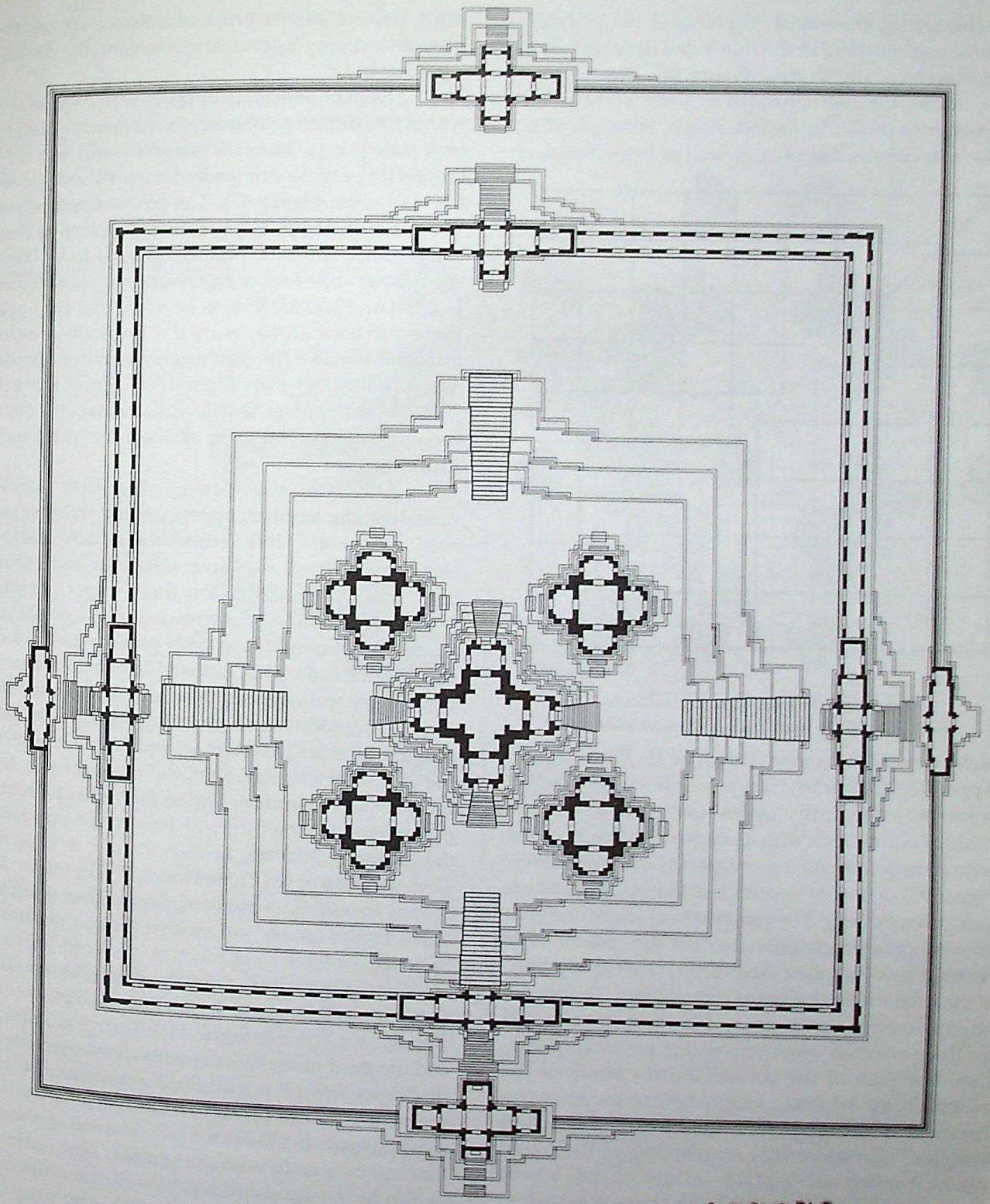
Ta Keo differs from the two previous temples--i.e., the *Bakong* and *Bakheng*--in that the ascending terraces do not support minor or subsidiary shrines. The visual and the ceremonial focus is the upper terrace with its soaring main sanctuary. As with *Bakong* and *Bakheng*, the quincunx temples are set to the west of the cross-axes of the upper terrace (See: **Figure 96, A**).[13] The three upper terraces are also set back from the second level and that whole from the first terrace. Those cross-axes are noted as (B) and (C), respectively. Nonetheless the three cross-axes are to be found within the main sanctuary and its tri-level plinth. The total exhibiting an apparent cross-axiality typical with the previous monumental work--i.e., *Bakheng*.

A variation from earlier temples design is seen

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 42 -- *Ta Keo* (temple mount & surrounding enclosures)



135372

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

in this strong cross-axial emphasis of the principle shrine and mirrored in the four subsidiary shrines of the summit platform (See: **Figure 96**). The cellas of the shrines indicate a parallel to such works as the *garbha-griha* of *Svarga Brahma Temple*, Alampur (7 C. CE) in its Greek-cross plan, as well as to the *Temple of*

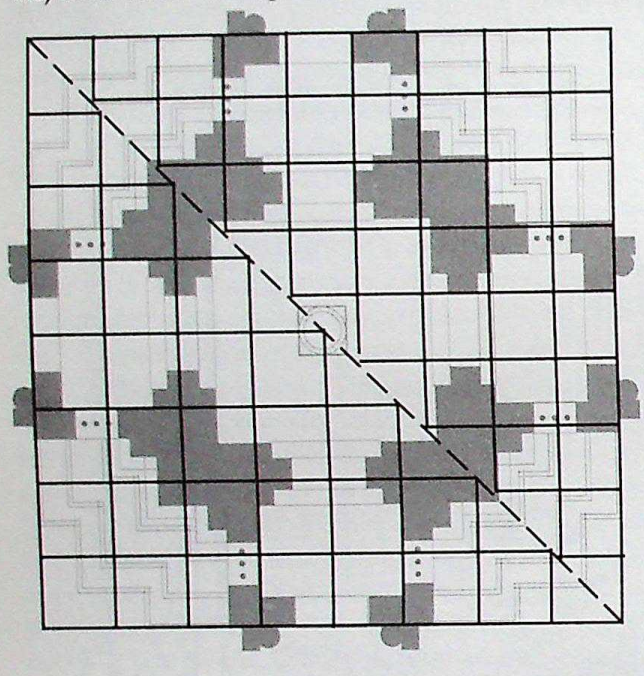


Figure 97: *Ta Keo*, principle sanctuary, indicating sixty-four and eighty-one *pada* grid

Maha-Vihara Dharmapala, Paharpar (c. 710 CE) (See: **Appendix A, Plate 93**). The principle shrine of *Ta Keo* is further noteworthy by its four entrances at the cardinal points, each with a porch extending from the central block forming a pronounced Greek-cross (See: **Figure 97**)--a further extension of the porches that are seen in the *Bakheng*. The proportion of the shrine with its porches is closely related to the dimensions of its central block--i.e., their extension is close to one-third of the outer dimension of the central block. The overall impression is of compactness. However, it is elevated on three compact platforms which are more plinth-like. The plan of the bottom terrace-plinth of the central shrine exhibits a lengthening of the arms that becomes more apparent in other shrines and temples.[14] Certainly, this lengthening of the plinth offers a more substantial, solidly based, visual presentation, based upon the cross section as well as allowing for its forced perspective. Additionally, the open porches with their fenestrations, effectively alters the feminine *garbha-griha* to a space fit for the masculine *devaraj's* personal monument, the divine/royal *linga*.

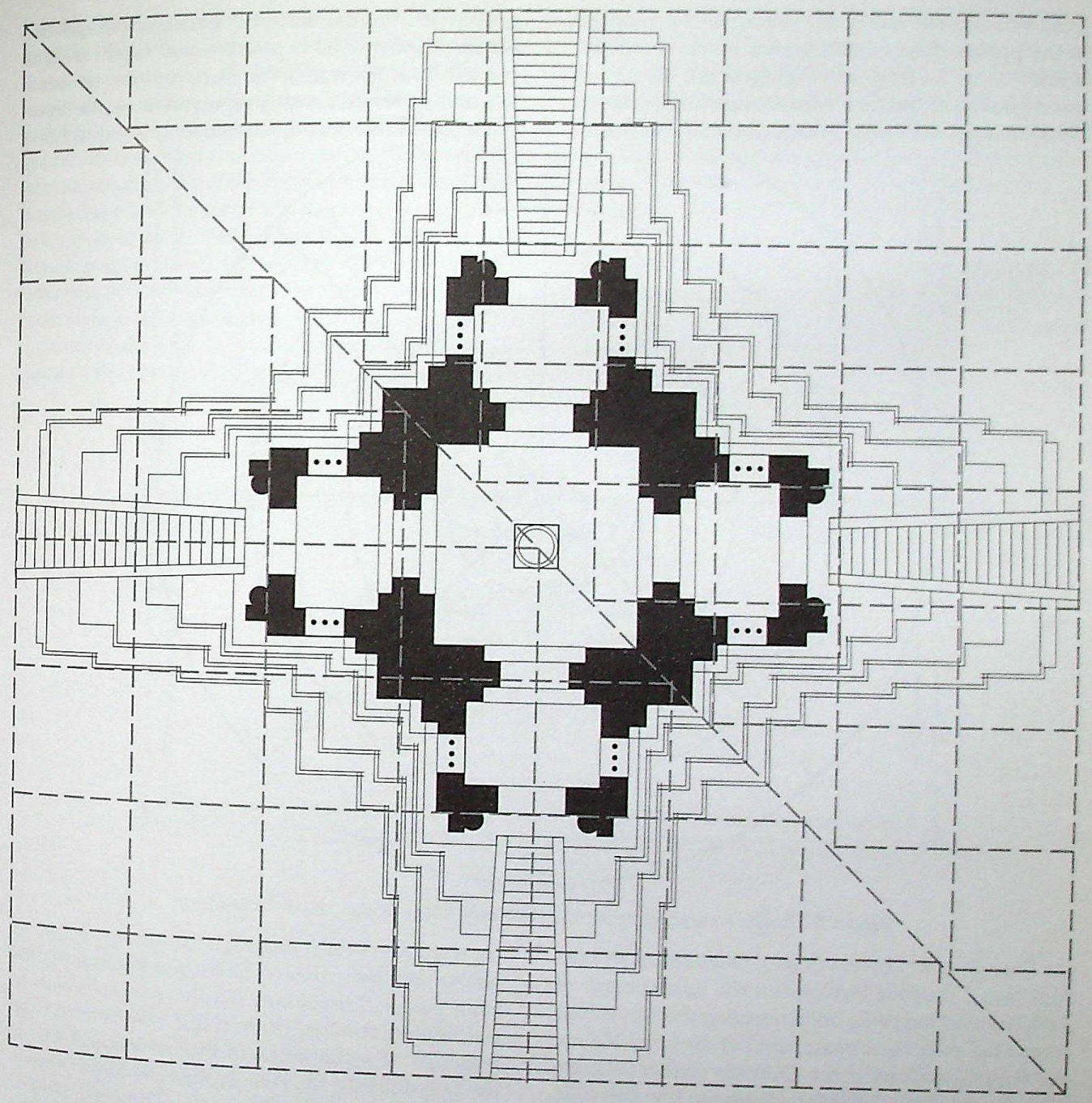
The main sanctuary appears to fit comfortably within two different *mandalas*. First a *mandala* of sixty-four *pada*--i.e., a *Manduka Mandala*--and second a *mandala* of eighty-one *pada*--i.e., a *Paramashayika Mandala*--(See: **Figure 97**). The whole upper shrine structure--i.e., the principle shrine as well as its three supporting platforms/plinths--appears to be based upon either sixty-four or eighty-one *pada* as well (See: [- - - -] on **Plate 43**). It is to be noted that the upper three terraces along with the quincunx shrine arrangement also fits comfortably within a circular *Manduka Mandala* (See: **Figure 98**). The inner circle protects the central shrine and the second circle includes the *garbha-griha* of the four subsidiary shrines.

As with the other structures under consideration, numbers appear to play an important role. There are five numerals which assume significance; three, four, five, sixty-four and eighty-one. Three, referring to the three upper terraces, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva;* the trinity of *Sarasvati, Lakshmi, Parvati; trishula;* the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar;* the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). As the first masculine number (odd), the powerful and sometimes fierce planet/deity is an apt symbol. Four, referring to the four subsidiary temples of the quincunx, denotes completeness, perfection, the practical element, worldly balance or order, and the creating

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 43 -- *Ta Keo* principle shrine with plinth



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); properties, mental activity, intelligence, and the natural elements both positive and negative. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified

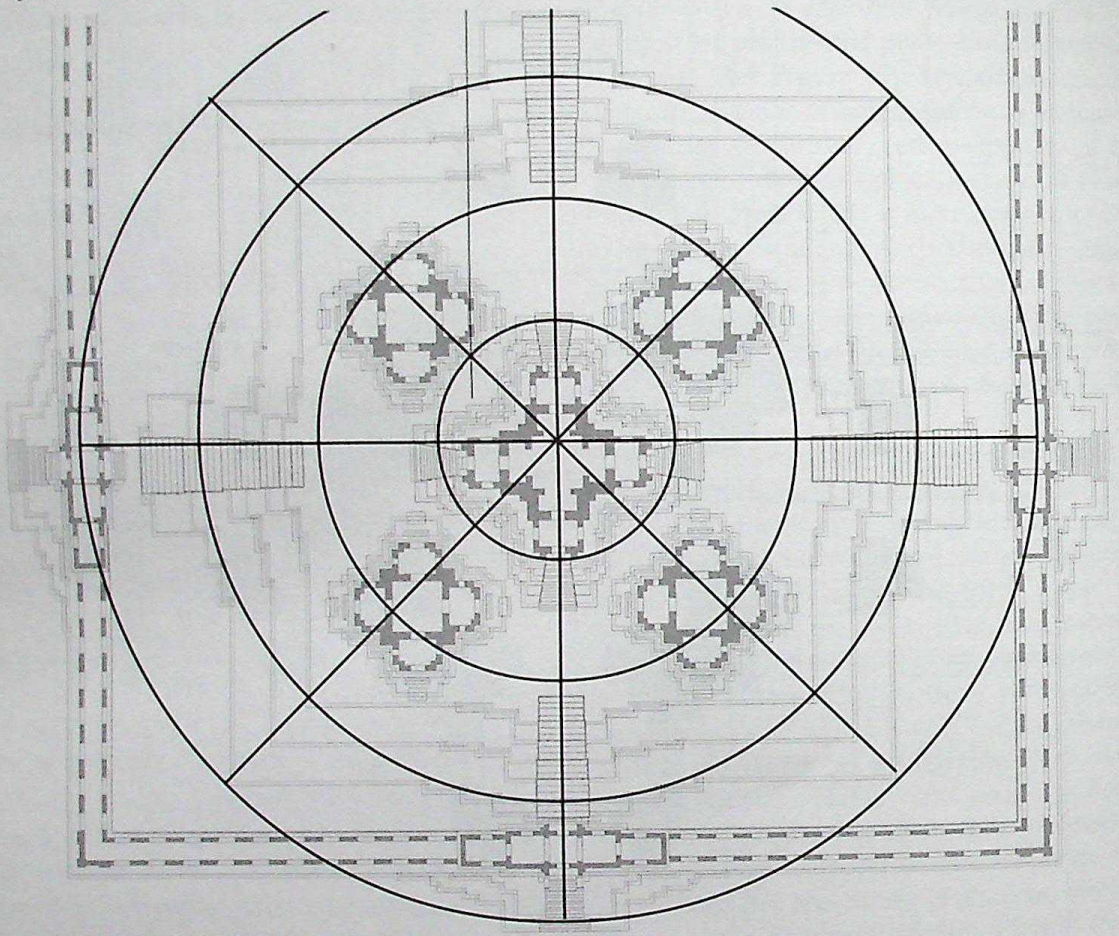


Figure 98: *Ta Keo,* indicating upper three terraces with circular Manduka Mandala

the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Five is seen in the five terraces, including the terrace of the girdle wall as well as the quincunx arrangement, denotes magical in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Failings or Weaknesses; the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

bZhin-gShegs-pa); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Sixty-four denotes eternal blessedness and *karma*. This is a number whose √ is 8. It is exemplified in: the number of *pada* for a *Manduka Mandala*; sixty-four chapters in the *Rig Veda*; sixty-four pleasures of *Shiva*; the sixty-four *vidyas*; and the sixty-four *Yoginis*. As a compound number it is associated astronomically with the planet Venus (*Shukra*) and the planet *Rahu* (the ascending node of the moon), When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*). Whereas, eighty-one denotes mystic wholeness and a number whose √ is 9. It is exemplified in: the number of *pada* for a *Paramashayika Mandala*. As a compound number it is associated astronomically with the planet Saturn (*Shani*) and the Sun (*Ravi* or *Surya*). When reduced it produces nine and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*).

The *Ta Keo*, even though unfinished, stands as a beacon, presaging the glories to come at Angkor. Its apparent height indicates the knowledge that the builders possessed, not only in structural considerations, but in design as well.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Phimai Temple (Prasat Hin Phimai),

Khorat, Thailand, 11 C. CE

(JB, MB, JD, JDII)

The cultural brilliance of the Khmers pervaded the whole of its empire and domains. The *Prasat Hin Phimai*,[15] one of the major Khmer monuments, is to be found in modern day Thailand and indicates this pervasiveness of this great kingdom. Dedicated to Hindu deities, It has been reconsecrated as a *Theravada Buddhist* temple after the defeat of the Khmer by Sukhothai (Sukhodhaya). In many ways it is typical of smaller shrines which do not involve a terraced, pyramid mount. Also, it is loosely related to the general plan of the Indian prototype--being composed of a cross-axial sanctuary (*garbha-griha*) and an assembly hall (*mandapa*)[16] or antechamber which is attached (See: **Plates 22 & 25**). The whole is surrounded by a girdle wall with pavilions at the cardinal points (See: **Figure 99**).

En plan, the sanctuary is similar to a number of preceding shrines in as much as there is physical access to the shrine's center from the cardinal points of the compass. The *Prasat Hin Phimai* indicates a close relationship with the central shrine of the *Ta Keo* in the use of the Greek cross for the principle shrine (See: **Appendix A, Plate 122**). However, the proportion of the sanctuary indicates a lengthening of the porches which with their small windows offer additional light into the interior. This provides more light--a masculine concept--into the central shrine area, thereby effectively destroying the dark *garbha-griha*--the feminine, the womb, the dark *gu*--that is the hallmark of Indian Hindu shrine architecture.

The southern porch of the sanctuary (*garbha-griha*) is adjoined with the northern porch of the *mandapa*[17] creating a rather narrow unfenestrated room or passageway acting as a transition between the two interior spaces (*ardhamandapa* or *sukanasi* or *antarala*). The length of the whole--i.e., the sanctuary plus the *mandapa*--is a trifle less than twice the dimension of the principle shrine. The "*mandapa*," which some feel is a later addition, does not refer to the Indian exemplar--i.e., a structure that is generally square en plan and somewhat larger than the *garbha-griha* (See: **Plate 25**). Rather, it is a long and narrow structure more closely related to the width of the sanctuary's porches than to the main block of the *garbha-griha*. There appear to be numerous models within the empire of the Khmers which employ this proportion--e.g., *Banteay Samre*, *Wat Ek*, *Wat Baset* as well as the *Northwest* and *Southwest Libraries* of *Angkor Wat* (See: **Appendix A, Plates 122 & 124**). The effect of the whole strongly resembles the Latin cross utilized by numerous Western churches. If not an actual precedent, this form--i.e., the Latin cross--is employed at a later date by the Thais in the seventeenth century *Wat Phra Chao Phanan Choeng* of Ayutthaya (Ayudhaya) (See: **Plate 69**).

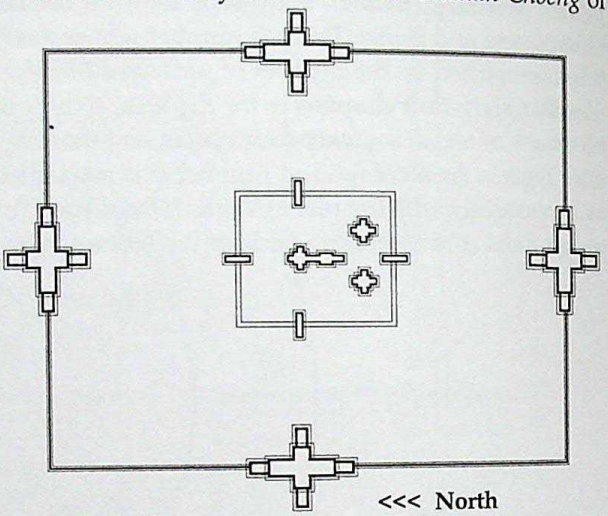


Figure 99: *Prasat Hin Pimai*, complex plan

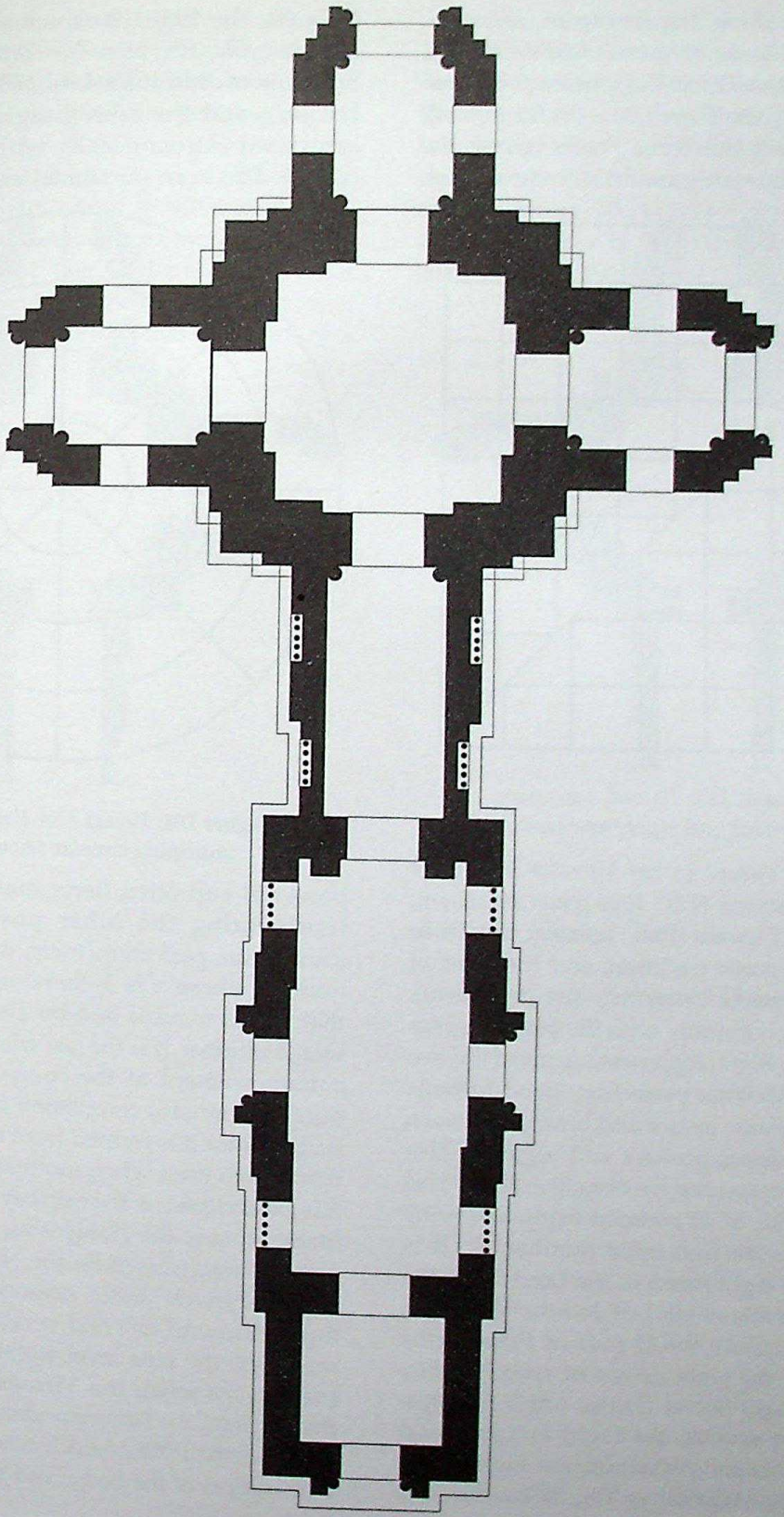
In applying a suitable mandala to the *Prasat Hin Phimai*, present certain problems. The principle shrine appears to be based upon an eighty-one *pada* grid--i.e., a *Paramashayika Mandala*--(See: **Figure 100**). The *Manduka Mandala* seems the present some minor problems, particularly as concern the inclusion of the *garbha-griha* in the *Brahmásthana*. When a circular *Manduka Mandala* (See: **Figure 101**) is applied, the same problems become evident, although there are interesting inclusions--e.g., the intersection of the second largest circle with the windows of the "arms" and the inclusion of the entrances to the inner precinct by the second smallest circle.

It would appear that there are three numbers which are of importance: three, eight and nine. Three, refers to the three "porches," denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 44 -- *Phimai Temple* (*Prasat Hin Phimai*) Sanctuary



North >>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps

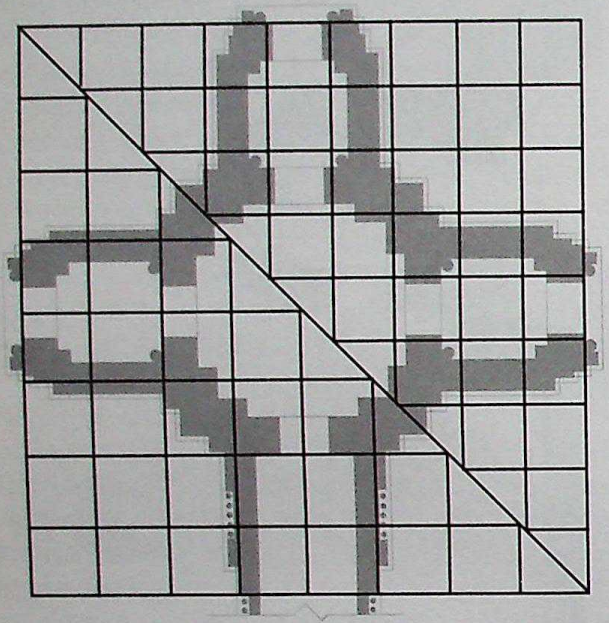


Figure 100: *Prasat Hin Phimai*, sanctuary, indicating sixty-four and eighty-one *pada* grid

taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Eight, representing one of the two possible grids, symbolizes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This integer as even, is representative of motherhood. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). The even (feminine) eight is assigned to a

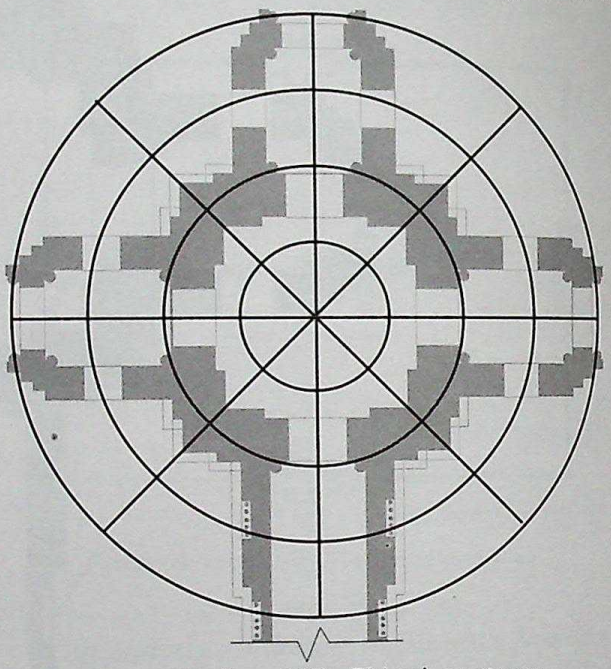


Figure 101: *Prasat Hin Phimai*, sanctuary, indicating circular *Manduka Mandala*

powerful and often fierce masculine planet. Nine, representing the other possible grid denotes completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion and space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*) being: pearl, ruby topaz, diamond, emerald, coral, sapphire, moonstone, sardonyx; the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the human being. It is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*). As the second most powerful odd number (the square of the sacred three), nine is assigned the puissant planet, Mars.

Also of interest is the orientation of the *Prasat Hin Phimai*. Unlike the norm, it is oriented south to north. This may have been due to the fact that the *Theravada Buddhists* of Thailand prefer to orient temples towards water. Hinduism, an inclusive faith, could well have accommodated this penchant of a vassal state.

The lengthening of the whole as is evident in *Prasat Hin Phimai* seems to be a development reserved for shrines that do not involve a mount concept, shrines of a secondary or even tertiary level of importance. This plan was not conceived as being a state temple but as a manifestation of royal power and patronage. Nonetheless, the brilliance of detail that is to be seen in the major mount shrines are also lavished upon these "lesser" temples.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Banteay Samre Temple

Angkor, a. 1050 CE

(JB, MB)

The *Banteay Samre*, one of the temples of lesser scale at Angkor, is related to the *Prasat Hin Pimai* in form and exemplifies the refinement of the style know as *Angkorian*. As one of the small shrines to be found within the architecturally rich Angkor area, its size does not lessen its aesthetic importance. It is a jewel. *Banteay Samre* assumes what might be referred to as a human quality, a human scale much in the same way as does *Banteay Srei* (See: **Appendix A, Plate 123**). It is neither encumbered with nor laden by numerous architectural details and accouterments to which larger, awesome ensembles fell prey.

The temple complex, axial *en plan*, is composed of an outer enclosure, an inner enclosure and the sanctuary ensemble. The two enclosures, rectangular, but not proportional, nonetheless possess the same axis (See: **Figure 102**). Each of the enclosures possesses four *gopura*, one each at the cardinal points of the compass. The sanctuary ensemble is composed of a *garbha-griha* and an extended hall (*mandapa*). The sanctuary proper is not on the same axis as the enclosure, but sets westward from the enclosures' axes. Flanking the "*mandapa*" are two libraries. The sanctuary, the *garbha-griha*[18] is cross-axial *en plan*, and carries on the *Ta Keo* Greek-cross tradition (See: **Figure 103**). However, the plan had been substantially simplified, particularly in comparing it to the *Prasat Hin Phimai*. The central cella, the *garbha-griha* is more cave-like than the *Prasat Hin Phimai*, being lit only from the ambient light filtering in from its eastern entrance. The north-south arms as well as the western arm assume the proportions of a flanking or radiating chapel rather than a deep niche. They mirror the shape of the *garbha-griha*. The only embellishment, *en plan*, is the minor extension, bracketing the entrances which enfolds two columns (See: **Plate 46**). This detail is repeated in the interior of the three chapels--i.e., the ones to the north and the south as well as the one to the west. The whole refers to, nay, mirrors the square of the *garbha-griha*. If one can make a further comparison between the plans of the *Banteay Samre* and the *Prasat Hin Pimai*, it would be that the former appears more masculine, the latter more feminine in is delicate transitions to the square.

En plan, the Latin cross predominates over the whole, and as has been stated the *garbha-griha* is considerably darker than those of either *Ta Keo* or *Prasat Hin Phimai*, being dimly illuminated only via the eastern entrance. The north, south and west porches possess neither doors to the interior, but are transformed into satellite shrines surrounding--on three sides--the central shrine. These three small chapels enfold the *garbha-griha*, protect it. The total effect underlines the concept of the womb and in that

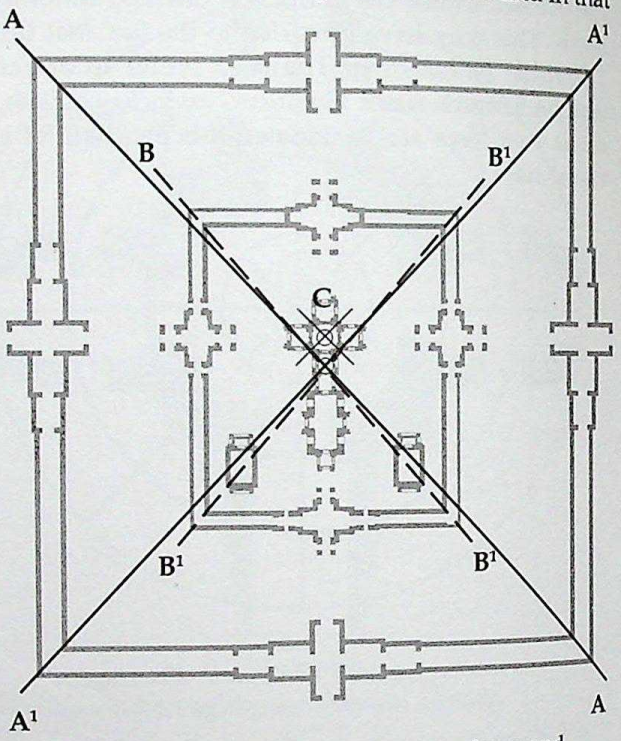


Figure 102: *Banteay Samre*, sanctuary, inner and outer enclosure indicating axes

respect, the *garbha-griha* of *Banteay Samre* is close in concept to the *gu*-temples of Pagan or the earlier shrines of the Khmer--e.g., *Preah Ko* or *Bakong*. The orientation, east to west, additionally underlines this feminine distinction.

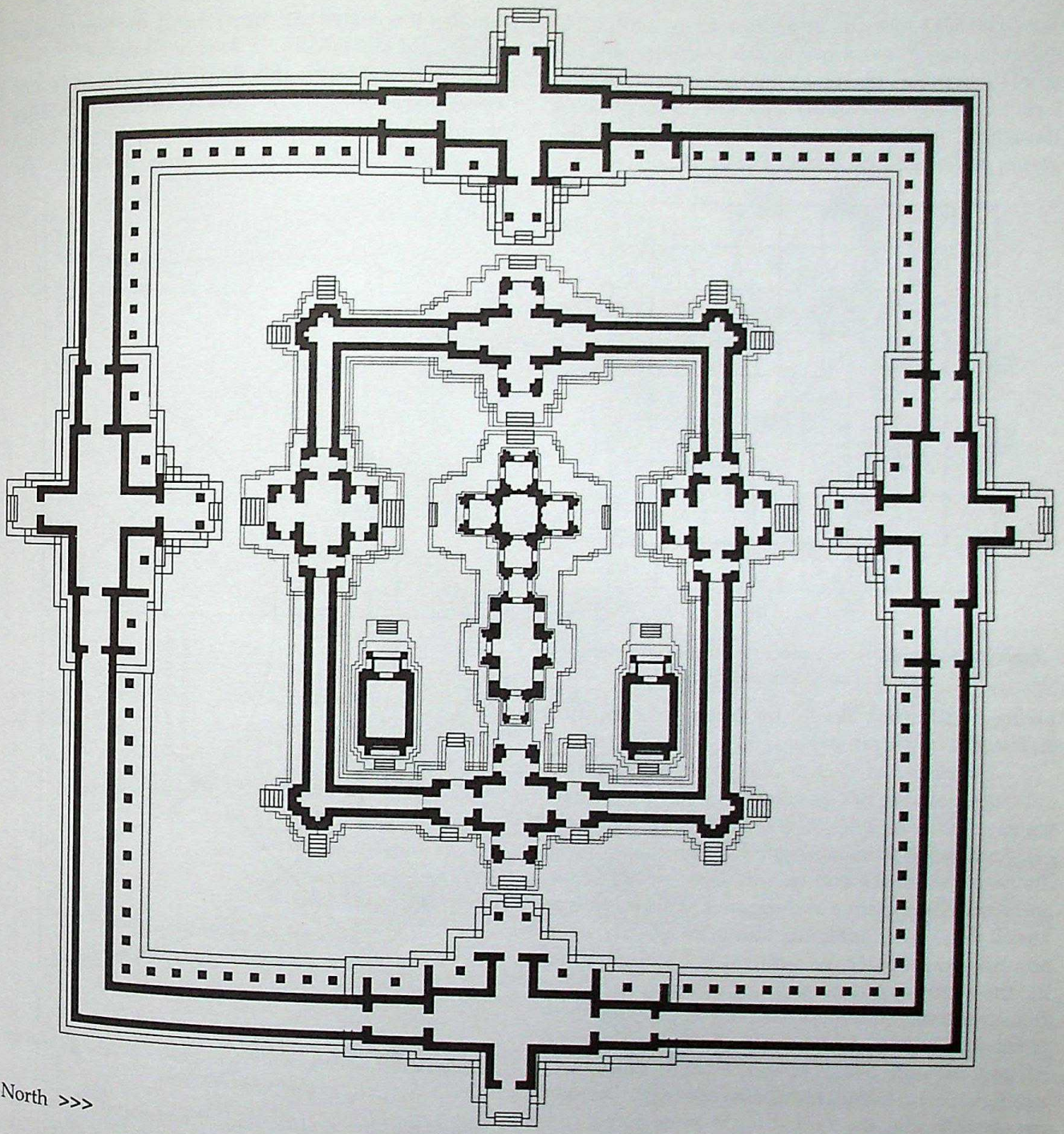
The transition to the *mandapa* of this temple is more pronounced than that of the *Prasat Hin Phimai*--i.e., a narrowing of the form which may be called the *antarala*. The *mandapa*, is somewhat wider in proportion to the *garbha-griha*, which tends to set it off from that sanctuary (*garbha-griha*) form. The effect of the whole does not present the nearly seamless transition as seen in *Phimai*, rather, here is presented two distinct areas that are connected by a short passageway. This is more in keeping with the prototypes of India.

The *garbha-griha* would appear to be composed of a eight or nine *pada mandala* (See: **Figure 103**). The

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 45 -- *Banteay Samre* Temple Ensemble



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Paramashayika Mandala appears a more acceptable choice than the *Manduka Mandala*. Additionally, the whole ensemble appears to fall conveniently within a circular *Manduka Mandala*. The outer circle encloses the whole, whereas, the second circle includes the *gopura* of the outer enclosure. The third circle enfolds

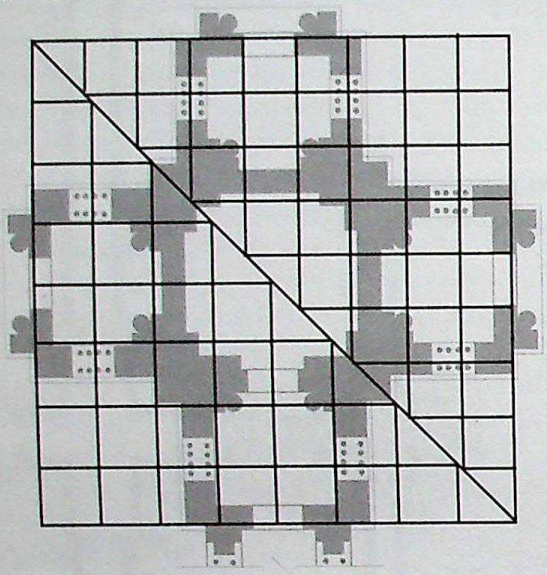


Figure 103: *Banteay Samre,* sanctuary indicating eighty-one and sixty-four *pada* grid

the inner enclosure. Finally, the inner circle contains and protects the sanctuary ensemble (See: **Figure 104**).

Numbers, as always play an important role, although they are not as apparent in *Banteay Samre* the as in other temples. Eight, referring to the eight *gopura*, denotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Sixty-four denotes eternal blessedness, *karma*, a number whose √ is 8, and a *Manduka Mandala*. It is exemplified in: the sixty-four pleasures of *Shiva*. Eighty-one, a number whose √ is 9, the number of *pada* for a *Paramashayika Mandala*. As a compound number it is related to Saturn (*Shani*), the Sun (*Ravi* or *Surya*) and Mars (*Mangala, Kuja* or *Angaraka*).

Even though the *Banteay Samre* was not conceived as being the primary repository of the *linga devaraj*, by its very form it can be interpreted as being an architectural/conceptual viceroy. It reflects the

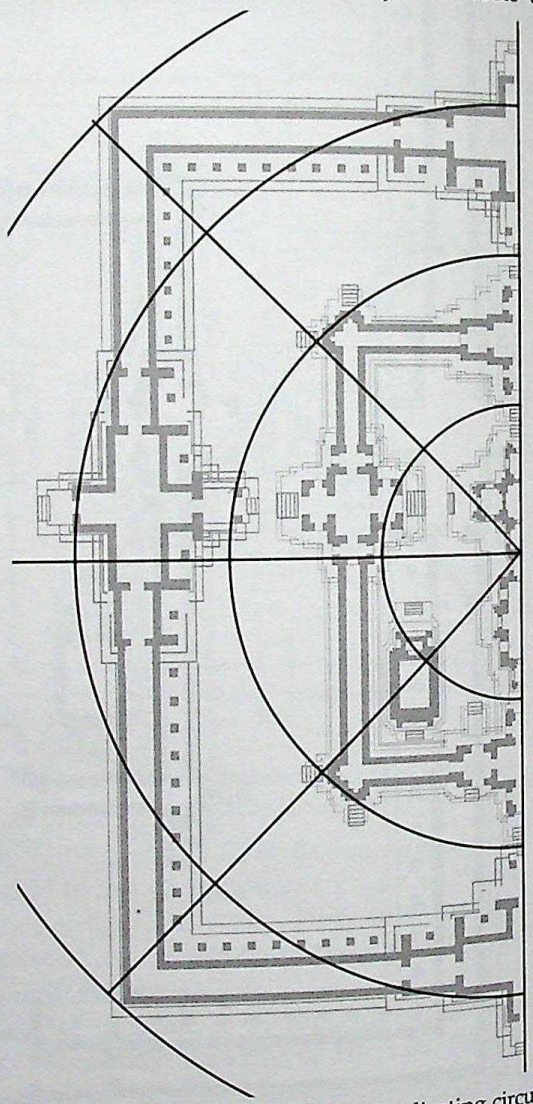


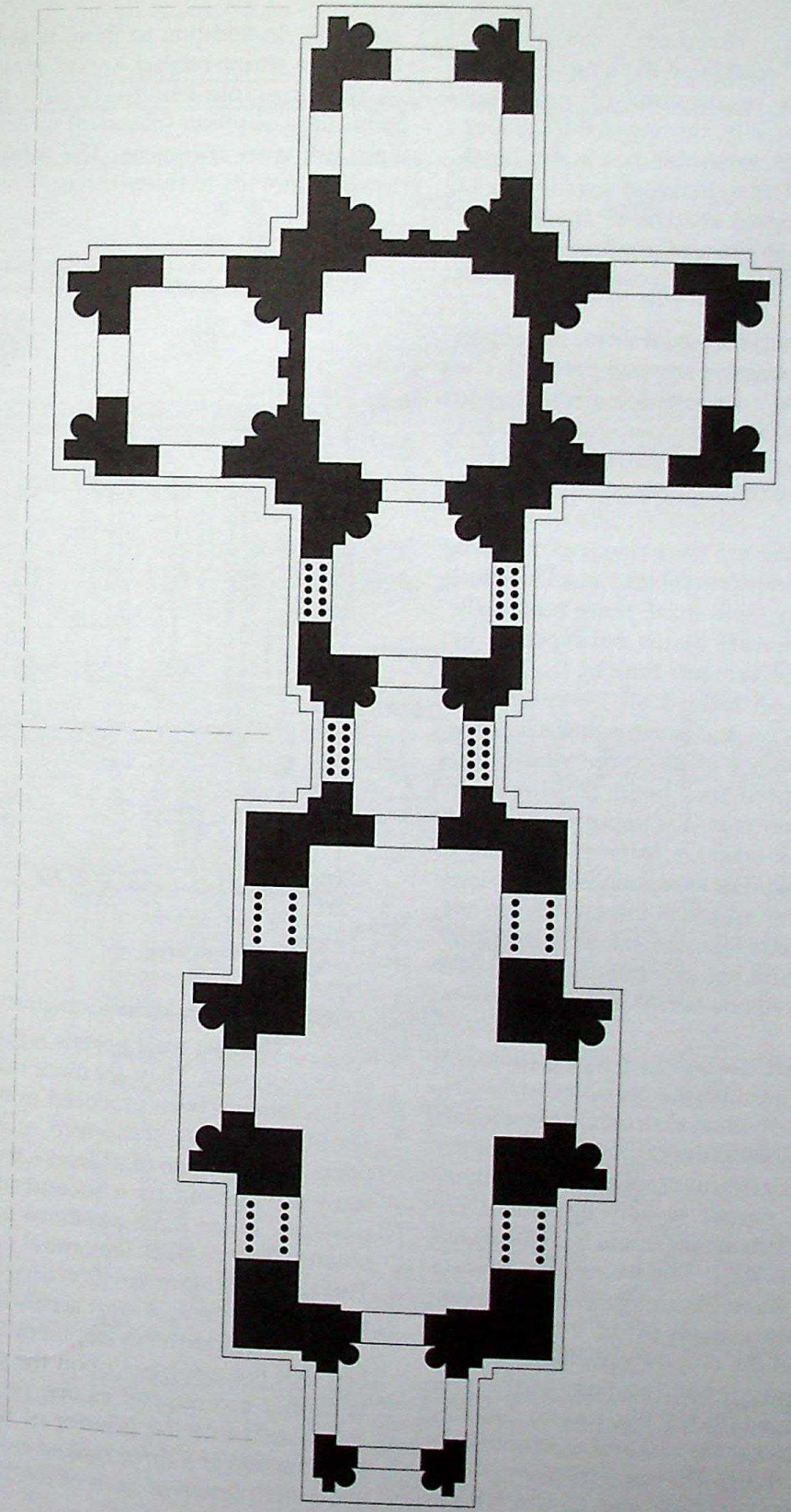
Figure 104: *Banteay Samre,* south half indicating circular *Manduka Mandala*

majesty of the empire and, therefore, the emperor. Further, this temple is not seated upon a pyramid-mount, the prominent *shikharas* over the sanctuary and subsidiary shrines underlines the concept of Mount Meru. The whole places the *Banteay Samre*, as Groslier states, in the category of one of the finest Angkorian temples on a single level.[19]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 46 -- Banteay Samre Temple (Central Shrine)



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Baphuon

Angkor, 1050-1066 CE

(JB, MB, BG, PR, JF)

Baphuon at Angkor, built by Udayadityavarman II,[20] continued the temple-mount tradition and was a monument of no mean importance, architecturally, amongst the various complexes at Angkor. Its ensemble size is similar to that of *Angkor Wat* and its uppermost terrace rose to approximately one-hundred-sixty feet.[21] The *Baphuon* indicates a further developmental continuum which began with the *Preah Ko* and which owes a large debt to *Borobudur*.

En plan, the main cross-axial shrine rests upon five terraces forming a massive stepped pyramid. The total is enclosed within a colonnaded girdle wall of massive proportions (425 x 122 m). As with the *Ta Keo*, one finds colonnaded galleries on the subsequent two levels, and the height of the total was similar to the *Ta Keo*.

However, there are four major deviations from the preceding temple ensembles. First, the whole ensemble is essentially cross-axial, more accurately, mirror cross-axial; a feature that is not repeated by any following major monuments built by the Khmer. The central shrine and indeed all the levels are centered on the east-west and north-south axes. The placing of the main shrine offset to the west of the north-south axis which had been employed in preceding monuments was, for some reason, not employed here. This offers a mirror cross-axial orientation to the whole. The exception is the two east and two west 'libraries,' which in themselves are not parallel *en plan*. Nonetheless, the whole is essential cross-axial. Additionally, the colonnades at the east and west entrance pavilions herald a similar form in *Angkor Wat*.

A second shift, not so much a deviation as a development, is to be found in the profusion of towers, not associated with individual shrines. On three levels there are tower-pavilions at the cardinal points of the compass which act as gateways (*gopura*) to the higher levels. In addition, corner towers appear at the intercardinal points. This arrangement is certainly not unique (See: **Figure 105**). The numerous towers associated with the three terraces amount to thirty-three--one each on the corners of the three galleries (twelve), one each at the entrance pavilions located at the cardinal points of the compass of the four galleries (twelve), an additional two towers, flanking the main central tower at the east and west entrances of the lower terrace (four). The numeral twenty-eight was often employed in Asia and in the Khmer empire.[22] In addition to these twenty-eight towers, five more shrine-related towers may be added--that of the principle sanctuary and the four of the subsidiary pavilion (libraries) structures within the east and west entrances. The total number of the towers amounts to thirty three.

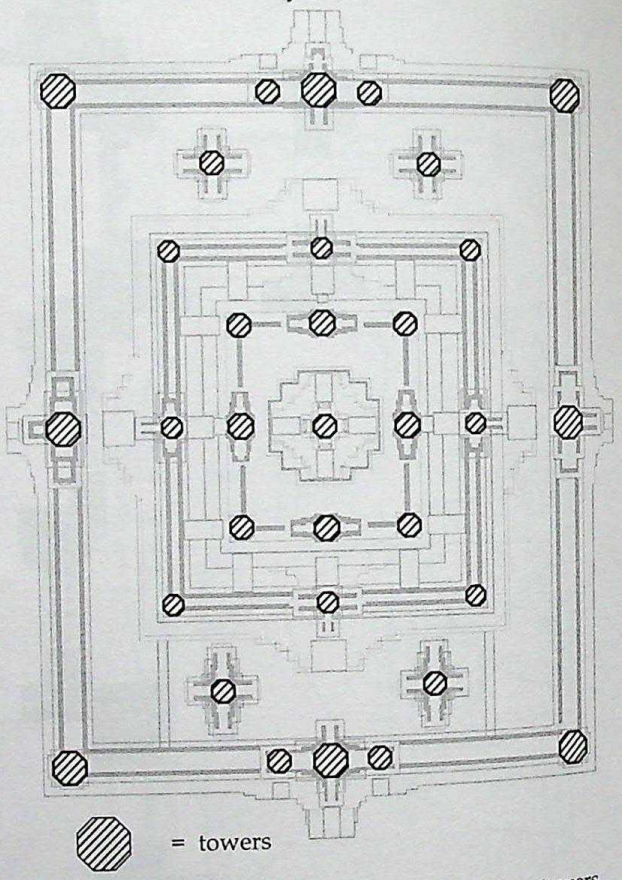


Figure 105: *Baphuon*, indicatingthethirty-three towers

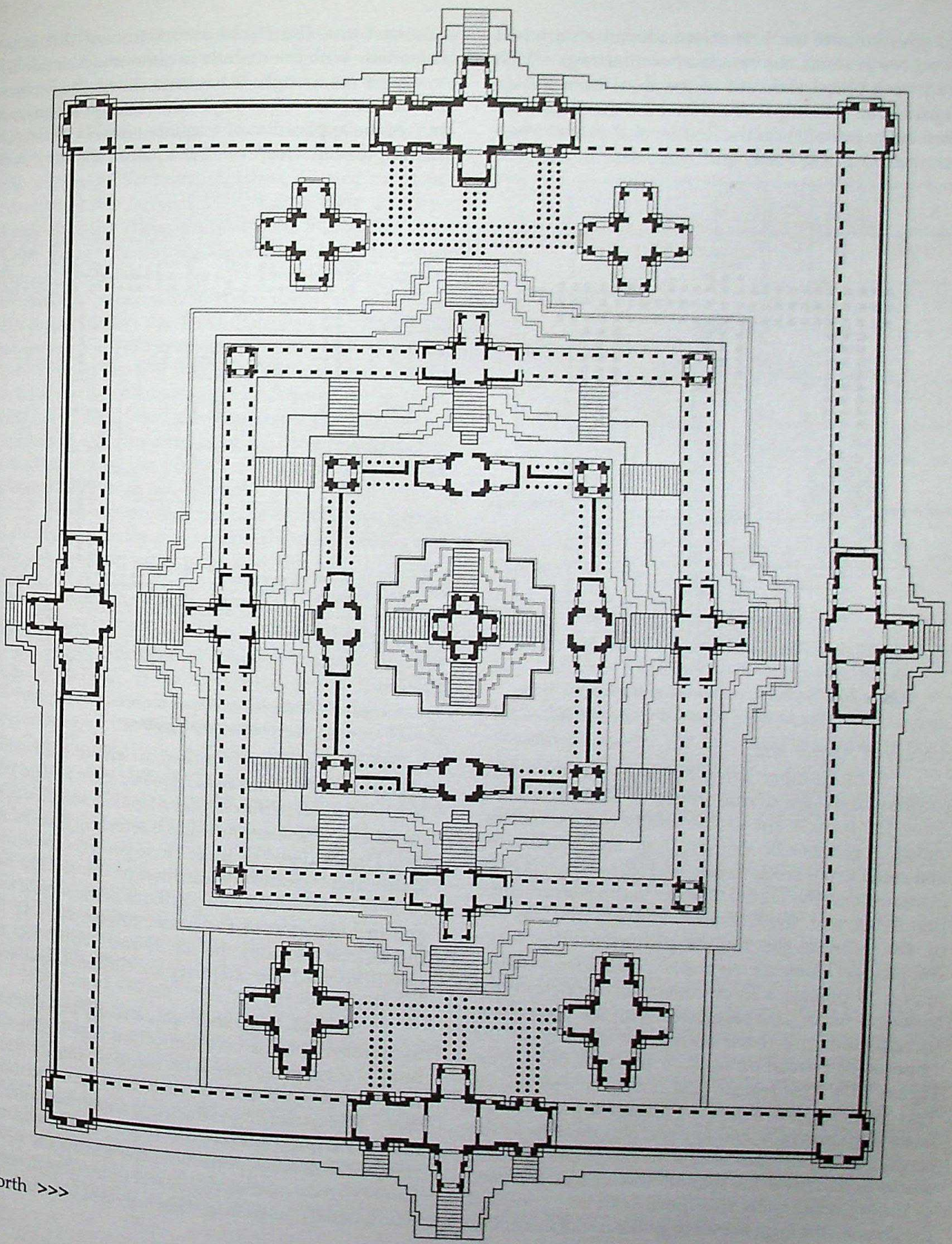
The east-west portals represents a third shift or development. They are more fully developed than had heretofore been practiced in the Khmer Empire. These portals are composed of a central entrance pavilion in the plan of a Greek-cross, the north-south arms are flanked by a second and third entrance pavilion. These three pavilions are surmounted by towers (*shikhara*-like), the central one being the tallest. This triple entrance pavilion provides a major visual emphasis to the east-west access (See: **Figure 106**).

The fourth development is to be found in the fact that the emphasis upon the east-west entrances is further accentuated as one proceeds through the pavilion(s) into the interior of the complex by the introduction of a three ranked colonnade attached to the inner portion of each of the three entrances. The

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 47 -- *Baphuon*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

inner terminus of the three colonnades are all attached to an north-south colonnade of similar rank which leads to a broad staircase to the third terrace (See: **Figure 106**). The triple enrichment of the main east-west entry portal(s) on the first level appears to be a innovation in *Baphuon*, and reappears in the next

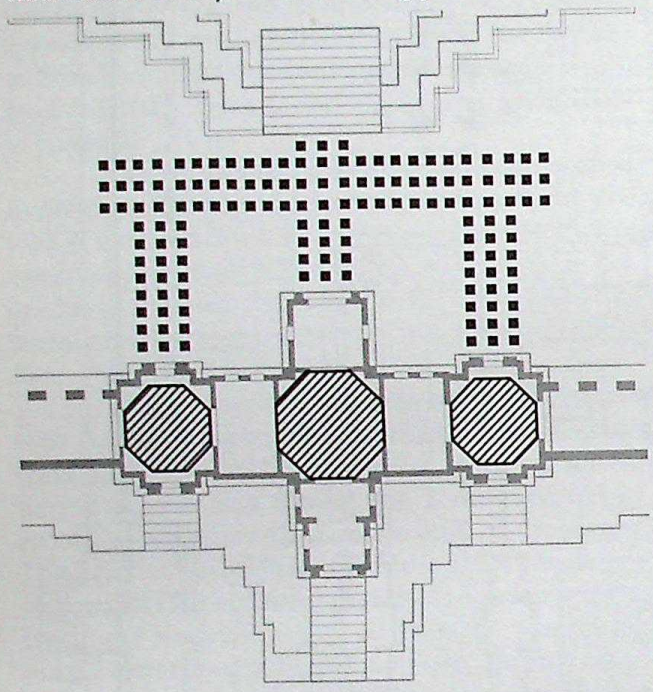


Figure 106: *Baphuon*, east-west entrance pavilions indicating interior colonnade and towers

century at *Angkor Wat*.

The number three becomes an important consideration--the divine trinity of *Brahmá, Vishnu, Shiva*; the *trishula*; the divine family (father, mother, child). A number of shrines, large and small were dedicated to the Lords *Vishnu* and *Shiva*--there is even evidence that the cult of *Brahmá* had achieved some popularity with the Khmers.[23] Perhaps this was one of the reason for the employment the three colonnades. However the triple colonnades, visually, appear to possess a more cogent interpretation--the *trishula*, a major icon associated with the Lord *Shiva*. In addition, the three stairways leading to the uppermost terrace on each of the four faces (See: **Figure 107**). This feature had not been seen before. This fact, coupled with the additional fact that the outer two staircases lead to blind entrances (only the central stair provides access to the upper terrace) seems to underline the number three. Since *Baphuon*, as *Bakong* is primarily associated with the concept of the *devaraj*--the *linga Indreshvara*--the use of masculine numbers and the visual association of this inner colonnade with the trishula is quite understandable.

Even though, as has been stated, the *Baphuon* is a mirror cross-axial temple, the rectangular terraces makes the application of a square *mandala* difficult if not impossible. However, the square sanctuary with

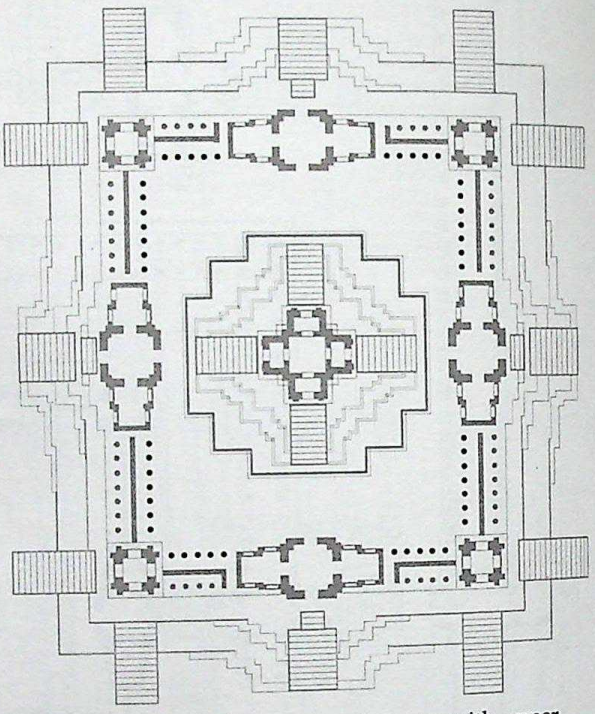


Figure 107: *Baphuon*, upper terraces with upper colonnaded gallery

its plinth is eminently suited to either a *Manduka Mandala* or a *Paramashayika Mandala* (See: **Figure 108**). The imposition of the circular *Manduka Mandala* upon the whole of *Baphuon* indicates interesting possibilities (See: **Figure 109**). The inner circle protects the central shrine and includes the cardinal pavilions. The next circle enfolds the entrance pavilions of the second level and includes part of the corner towers as well. The third circle includes the north and south entrance pavilions and the majority of the east and west pavilions.

As has, in a minor way, already been alluded to, numbers play a very important role in *Baphuon*. Several integers appear with some regularity--three, four, five, seven, eight, twelve, twenty-four and thirty-three. Three, referring to the triple east-west entrances and the triple ranked colonnade, is a masculine number, it denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition; and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). As the first masculine number (odd), the powerful and sometimes fierce planet/deity is an apt symbol.

Four, as represented by the four files of the triple rank colonnade inside the central entrance of the east and west main entrances and the four libraries, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*.

The five terraces upon which the principle sanctuary rests not only mimics other Khmer predecessors, but also *Borobudur*. Five also appears in the four ranks of five columns on the upper terrace, north-south axis (See: **Figure 107**). Five symbolizes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents

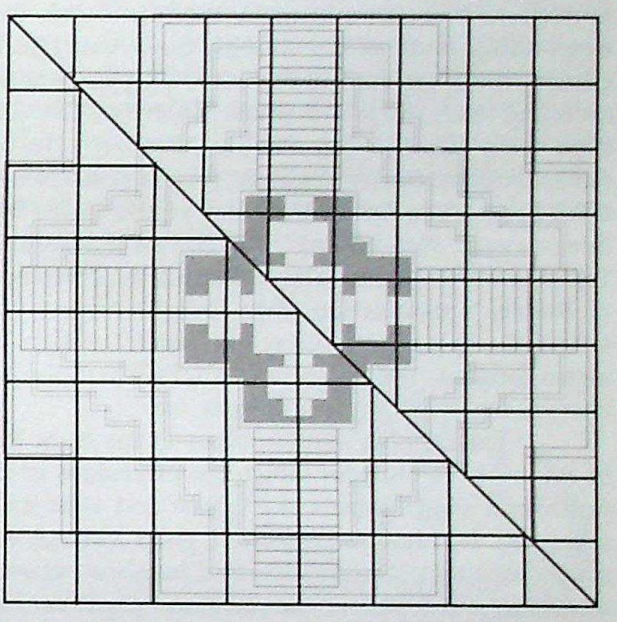


Figure 108: *Baphuon*, Sanctuary and plinth indicating a *Manduka Mandala* and *Paramashayika Mandala*

love, the union of the masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Failings or Weaknesses; the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: *kamaguna*); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: Ye-*shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Seven is a quarter of twenty-eight, in addition there are four ranks of seven columns on the upper terrace, east-west axis (See: **Figure 107**). Seven denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine) and is often considered as the number of creation and perfection. It is exemplified in: the planet *Ketu* (the descending node of the moon), the seven Hindu planets; the seven days of the week; the phases of the moon; Seven Royal Jewels (Indic *Saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Mothers (Indic: *Saptamatrikas*); Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the Seven Factors of Enlightenment (Indic: *Satta-bojjhanga*); the seven sites of *Buddha's* meditation after Enlightenment; and within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya's* chariot, the seven streams of *soma*, etc.

The number eight appears in the eight files of the triple colonnades which are extensions of the north and south portals of the east and west main entrances. It connotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This integer as even, is representative of motherhood. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*).

Twelve, referring to the twelve corner towers, a cosmic number, comprehends all numbers lower than itself. It is exemplified in: The Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the twelve months, the twelve signs of the Zodiac; the twelve hours of the day; the twelve hours of the night; the duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *Paticcasamuppada*). Additionally, it is represented by the *Anahata Chakra*. As a compound number it is associated with: the Sun the Moon and Jupiter.

The numeral twenty-four connotes totality and the combination of two opposites--i.e., 2, represented by the Moon, and 4, which denotes *Rahu*.

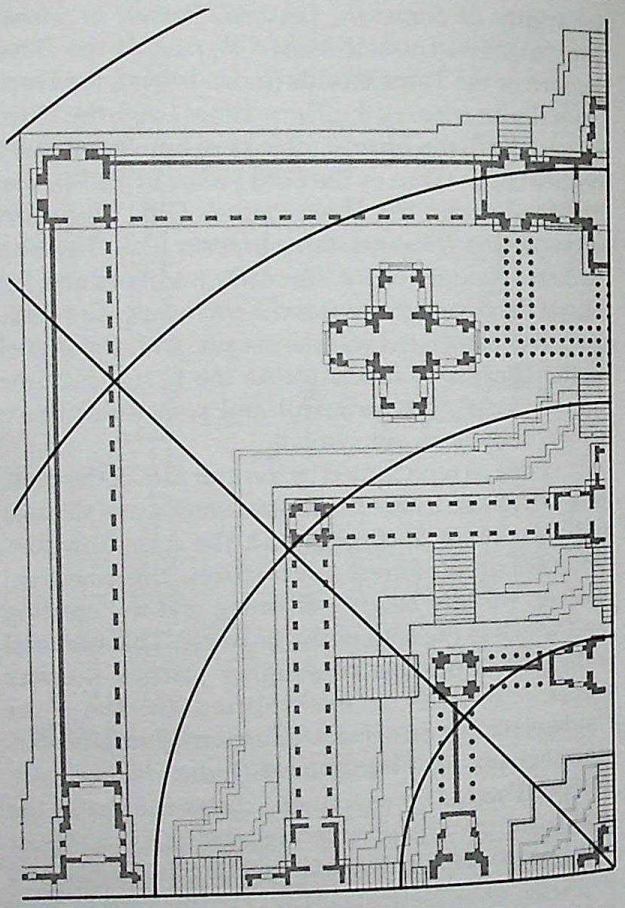


Figure 109: *Baphuon*, south-west quadrant indicating circular *Manduka Mandala*

This integer represents a cosmic number, and is considered a lucky number. It is exemplified in the total of the double hours of day and night. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces six and, therefore, the planet Venus (*Shukra*).

The integer twenty-eight, as has been noted is an auspicious number, it is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*, *kamasugati-bhumi* and the

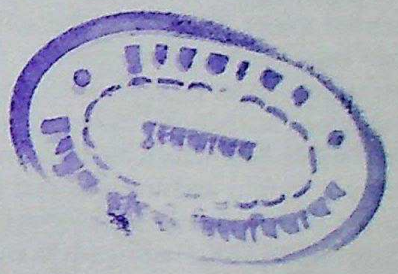
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

rupavachara-bhumi; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*).

Finally, thirty-three, referring to the total number of towers, is the number of perfection (two three's), and completion. It is exemplified in: the thirty-three deities of the *Vedas*--eight *Vasus*, eleven *Rudras*, twelve *Adityas*, *Indra* and *Prajapati*, and the number of vertebrae in the spinal column. As a compound number, it is related to: the planet Jupiter (*Brihaspati* or *Guru*). When reduced it produces six and, therefore, the planet Venus (*Shukra*). Since the temple-mount is a representation of the heavenly Mount Meru, place for the habitation of the thirty-three deities seems appropriate.

The iconography of the plan of *Baphuon* appears to be centered, of course, around the male, the masculine. It addition, there are certain indisputable relations with the phases of the moon. This magnificent structure, a testament to the divinity of the *devaraj*, Udayadityavarman II, imposes its considerable influence upon subsequent temple mounts of Angkor--in particular the *Angkor Wat* as well as the *Bayon*. *Baphuon* is an icon, a symbol with its dependent iconography and forced perspective, that exerted and exerts its influence on all who come in contact with it.



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Angkor Wat

Angkor, c. 1113-1150 CE

(JB, PR, MB, JD, JDII)

King Suryavarman, The Great; Suryavarman, The Conqueror; Suryavarman II was responsible for the creation of *Angkor Wat*, one of the most brilliant jewels in his crown. Needless to say, *Angkor Wat* is the most celebrated Khmer monument as far as the public-at-large is concerned. Numerous and extensive studies, monographs, tomes and articles have been dedicated to its various facets, making it academically, the most renown of the Khmerian monuments.[24] Incidentally, it was the last great Temple mount dedicated to a Hindu *devaraj*. In addition, its restoration has provided the most photogenic aspects of the great temple mounts, which also has added to its popularity.

Angkor Wat is the 'natural' offspring of *Baphuon*, which, like its antecedent eschewed the quincunx arrangement for the elevated importance of the main central tower. They recall the solitary elevation that had been seen in *Bakong*, rather than the five tower arrangement as exemplified in *Bakheng* and *Ta Keo*. Nonetheless, there are rather standard features found in *Angkor Wat* which had become accepted in the temple mount architecture and plans. Primarily, a girdle wall surrounding a series of galleried terraces (See: **Figure 110**), leading up to an elevated, principle shrine which, in most cases, had been offset towards the west and isolated upon its own platform. In *Angkor Wat* the terraces assume, visually, a secondary role, being masked by the impressive colonnaded galleries on each of three terraces--i.e., the first, the second and the fifth. Generally speaking, there is a sense of cross-axiality when one views the sanctuary ensemble, taken as a whole, however, the ensemble is not cross-axial. Certainly it possesses a strict adherence to the axial plan for the ensemble.

There are a number of instances in which this temple-mount differs significantly from its predecessors. First, *Angkor Wat* is the only temple-mount of the Khmers that is oriented towards the west, rather than the east. This in itself makes the temple noteworthy. It has been suggested that Suryavarman II had *Angkor Wat* built not so much as a receptacle for his *linga Indreshvara*, (since he was not a *Shaiva*, but a *Vaishnava*) but as a mortuary repository, a mortuary temple. The west being the realm of the dead might account for this unusual facing. The orientation is more akin to the Christian concept of moving from the darkness (sin) or the west, towards the light (salvation), the east. Certainly, the reversal of the orientation away from the feminine west and its connotations of the womb (*garbha-griha*) and the power source, towards the masculine east, the light and the idea source, is unique. It is further interesting to note that the *Lokapala* of the east, within the Hindu

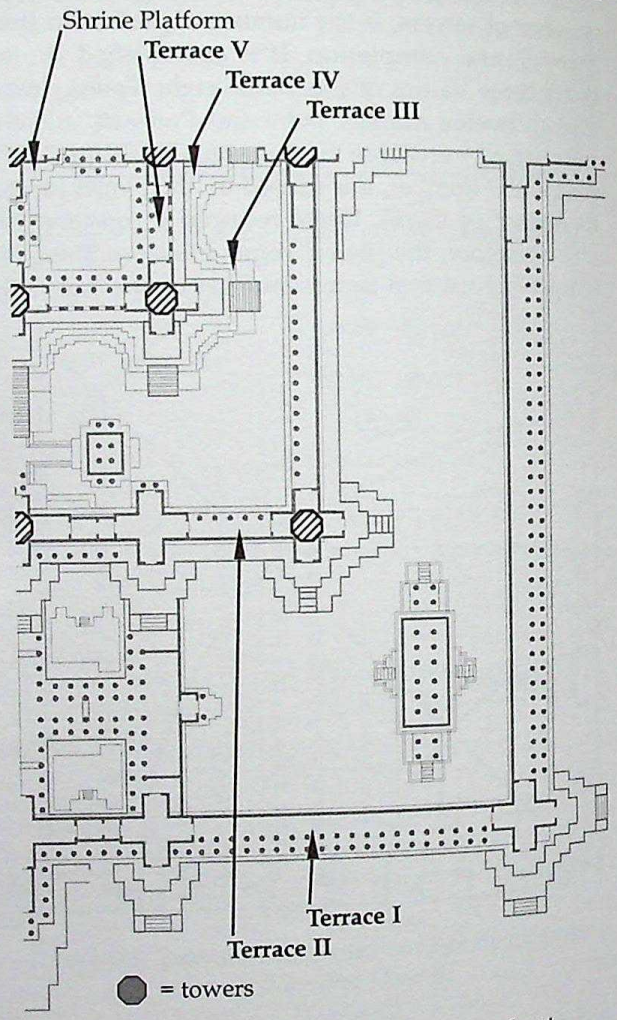


Figure 110: *Angkor Wat*, south-west quadrant, indicating terraces

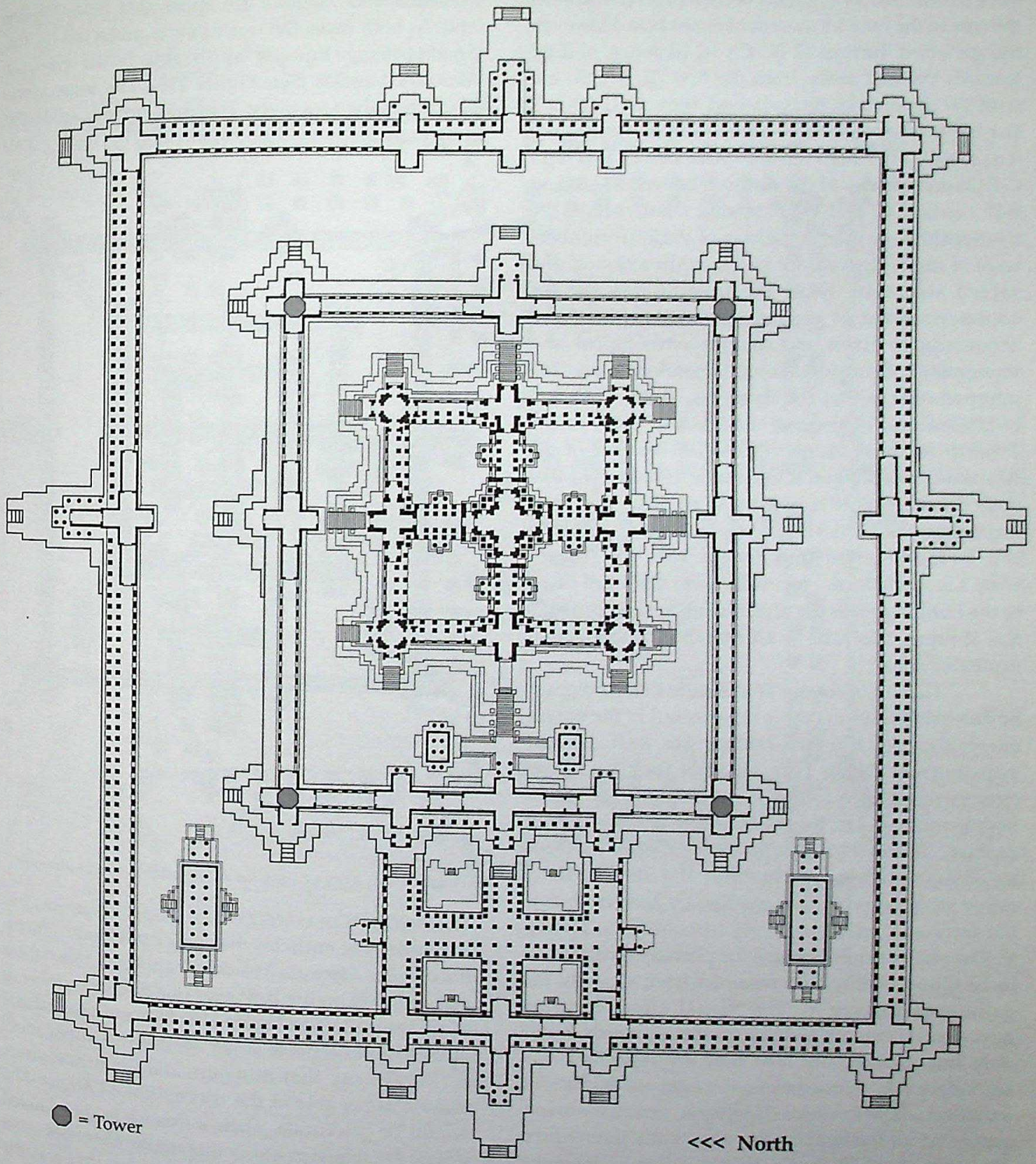
tradition, is *Indra*, who is often associated with the sun. The Hindu sun deity, *Surya*, of course, is the namesake of Suryavarman. Nonetheless, this westward orientation presents an interesting conceptual conundrum.

Secondly, none of the galleried terraces possess the same cross-axes (See: **Figure 111**), but each successive planal element is shifted towards the east. The cross-axes of **Terrace I** (**B-B**^{1})[25] is shifted eastward from the cross-axes of the girdle wall (**A-A**^{1}). This is

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 48 -- *Angkor Wat*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to be considered as a normal occurrence, having been the case in the various precedent ensembles. However, the galleried **Terrace II** (**C-C^1**) is, likewise, shifted towards the east away from the first (**B, B^1**). So too with the uppermost, the galleried **Terrace III** (**D-D^1**). Further, there appears to be a specific ratio established--i.e., the distance between the cross-axes of **B-B^1** and **C-C^1** is one-quarter of the distance between A-A^1 and B-B^1 , as is **C-C^1** and **D-D^1**. Spatial relationships, the relationships or interpretations of various numbers were of major importance to the construction of any sacred structure. Even the specific day for the commencement of construction was considered according to strict and arcane astrological and numerological considerations.[26] Therefore, a possible interpretation is that the three--i.e., **B-B^1** , **C-C^1** and **D-D^1**--are half of the one--i.e., **A-A^1** , **B-B^1**--as the *Trimurti* (*Brahmá, Vishnu* and *Shiva*) are part of the Absolute One, *Brahma*. It must be acknowledged that amongst the Khmer rulers, the Lord *Shiva* was most important, the Lord *Vishnu* was secondary and little is to be found of the Lord *Brahmá*.[27] Yet, the *Trimurti* were acknowledged, generally with the Lord *Shiva* or the Lord *Vishnu* as the preeminent one and possibly this shifting, this ratio is an exemplification of that expanded idea.

Thirdly, in *Angkor Wat* there is not the distinct horizontal definition that is to be found in the earlier ensembles. All the terraces are not well defined visually (See: **Figure 110**), certainly they are not as clear as those to be found in the examples of earlier temple-mounts--i.e., *Bakong, Bakheng, Ta Keo* and even *Baphuon*. **Terraces I & II** with their galleries provides an obvious definition. However the **Terrace III** is rather vestigial at best and masked by **Terrace II**, as is the **Terrace IV** which is merely a preamble to **Terrace V**. The platform upon which the primary sanctuary is to be found is, likewise, screened from view by the gallery of **Terrace V**. The visual effect of these horizontal elements as they ascend upwards is not only less distinct, but also they are relegated to a secondary role. Nonetheless, the total result is one of a unified whole in which the central, sanctuary tower grows out of the supporting, apparently interwoven elements of which it is a part, a different aesthetic approach.

In applying a *mandala* to *Angkor Wat* one finds several possibilities. Either a *Manduka Mandala* or a *Paramashayika Mandala* are applicable (See: **Figure 114**). In both cases the sanctuary is protected by the *Brahmásthana*. Equally applicable is the circular *Manduka Mandala* (See: **Figure 115**). The inner circle surrounds the sanctuary. The next circle enfolds the four extensions of the cruciform. The third circle

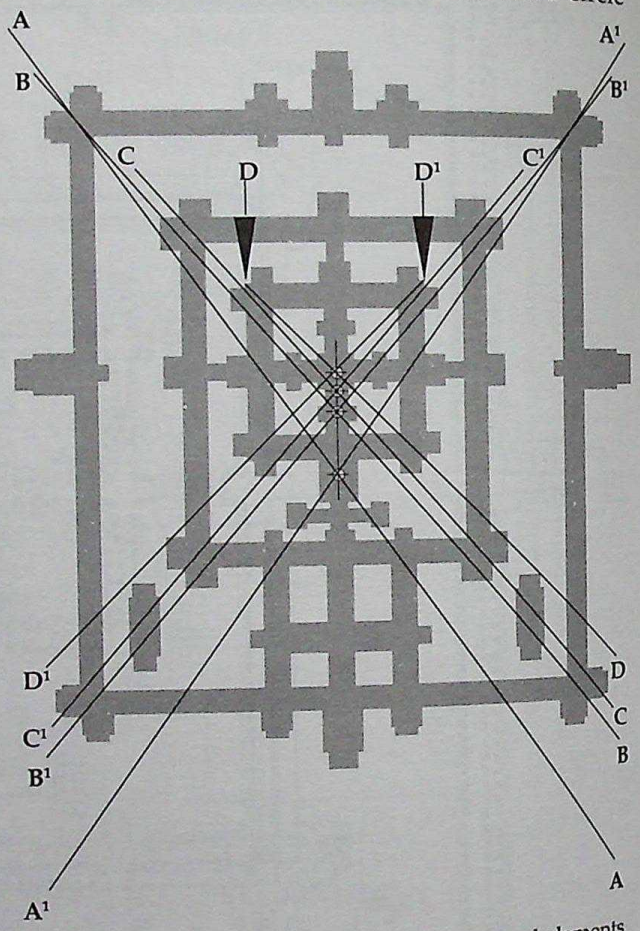


Figure 111: axes of various major architectural elements

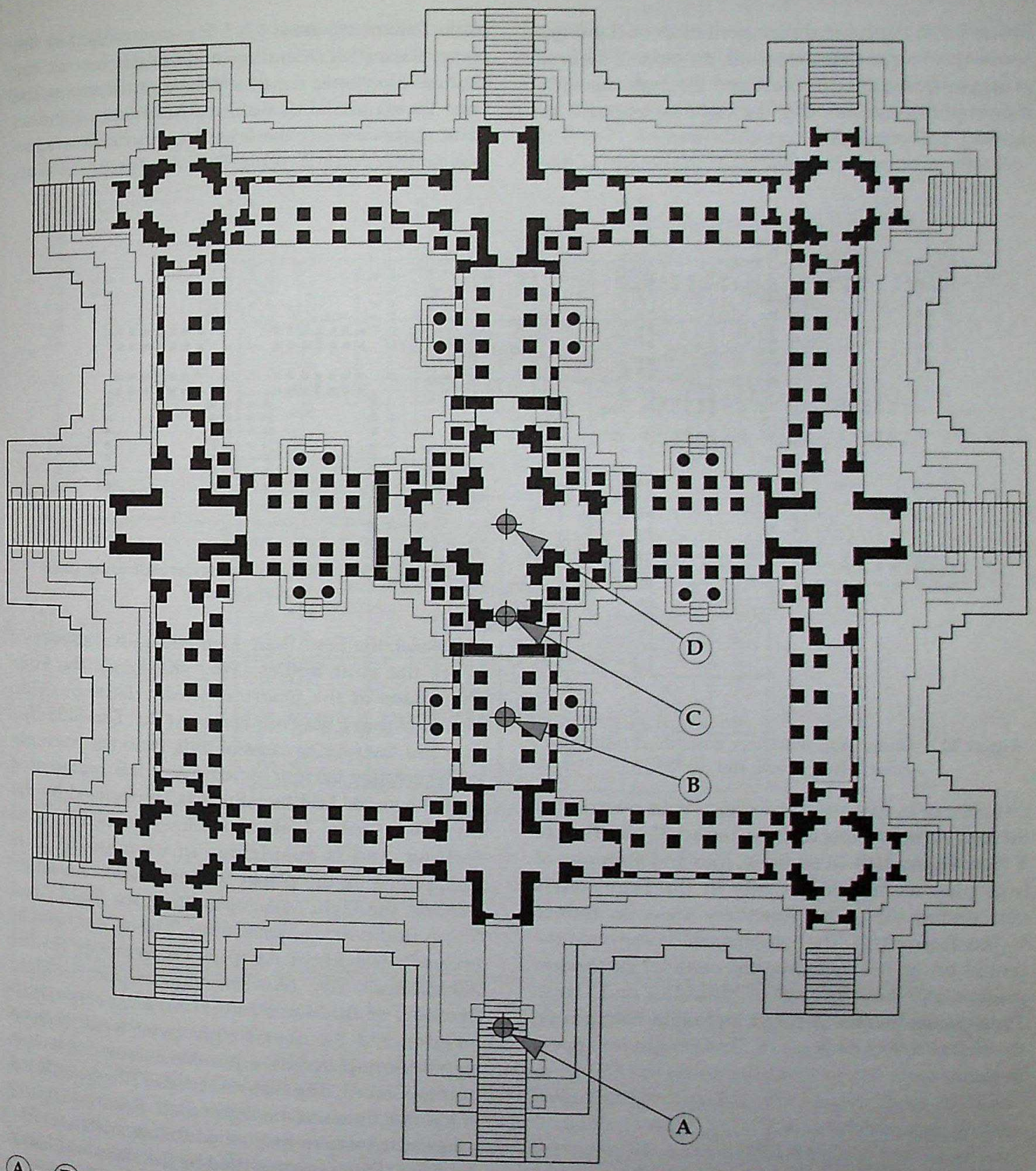
encloses the four entrances to the upper platform and the outer ring encircles the corner pavilions. Finally, if a circular *Manduka Mandala* is applied to the whole and centered on the **B-B^1** axes one finds a number of positive results (See: **Figure 116**). However, the axiality of the whole seems to auger against this application.

To say that numbers and/or numerology plays a lesser role in the conception of *Angkor Wat* would be inaccurate. Their influence is coordinated within the whole in a way that makes them not quite as obvious. The quincunx arrangement that was the hallmark of a number of precedents is not important in *Angkor Wat*. The single dominating tower thrusting

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 49 -- Angkor Wat (Sanctuary Ensemble)



Ⓐ–Ⓓ centers indicated in **Figure 111**

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

upwards, the corporeal representation of the *linga Indreshvara*[28] represents the source, the monad, the first principle, unity, The Absolute and the male. As such it exemplifies the sun, day, the right (as opposed to the left), and considered as a male symbol.

Four numbers appear most important in this

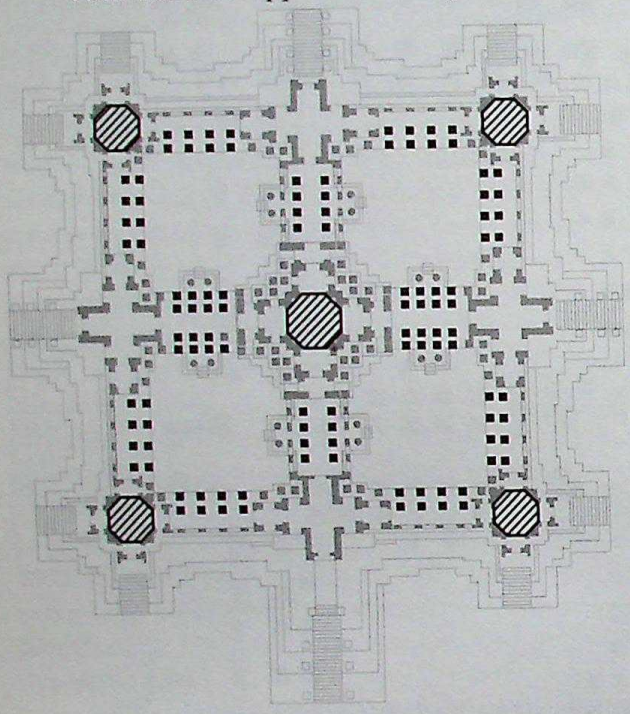


Figure 112: *Angkor Wat,* sanctuary ensemble i ndicating pillar arrangement and towers

complex: four, five, nine and seven. Four referring to the four corner towers each on **Terrace II** and **Terrace V** (See: **Figure 110**). In addition, four and multiples of four play an important role in the four courts surrounding the central sanctuary tower on **Terrace V** (See: **Figure 112**). The columns which surround the central tower, not including the cardinal extensions, present an interesting set of multiples and ratios. These ratios involve the four and eight columns on the outer edge of each court. These multiples appear in ratios:

4:8[29]
8:16[30]
16:32[31]
32:64.[32]

Four connotes completeness, perfection, the practical element and order. It is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-*

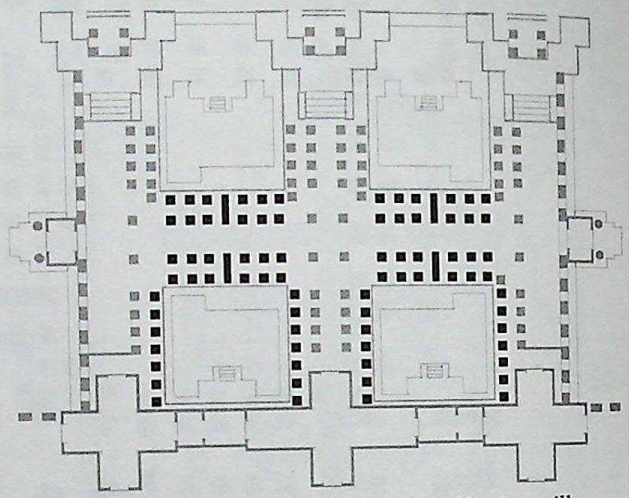


Figure 113: *Angkor Wat,* forecourt indicating pillar arrangements

iddhipada); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); the Four Guardians of the Quarters (Indic: *Lokapala,* Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); and the four streams of milk from the heavenly udder creating the four sacred rivers. It is represented by the square. Additionally, it is symbolized by the *Muladhara Chakra*. Eight symbolizes perfection, good fortune, and is auspicious in its makeup. It is exemplified in: the planet Saturn (*Shani*), *Manduka-mandala;* the Eight *Mahabodhisattvas;* the Eight Great *Stupas* (Indic: *Ashta-Mahachaitya;* Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala;* Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. Sixteen signifies completeness, a number whose √ is 4. It is exemplified in: The Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *Solasa-nana*); and a *mandala* of sixteen *pada* called *Padmagarbha Mandala.* Additionally, it is represented by the *Vishudha Chakra.* As a compound number it is associated with: the Sun, Venus and *Ketu*. Thirty-two is exemplified in: Thirty-two Auspicious Marks of the Great Being (Tib.: *sKyes-bu-chen-pohi mTshan gSum-Cu-rTsa-gNyis*) which along

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

with the eighty secondary signs are the recognizable signs of an Enlightened one; the thirty-two points of the compass--e.g., south, south south-southeast, southeast south-southeast, etc.--and the thirty two characteristics of human physiology. As a compound number it is related to Jupiter (*Brihaspati* or *Guru*), the Moon (*Soma* or *Chandra*), and to Mercury (*Budha*). Sixty-four denotes eternal blessedness, *karma*, and a number whose √ is 8, the number of *pada* for a *Manduka Mandala*. It is exemplified in: the sixty-four pleasures of *Shiva*. As a compound number, it is related to: Venus (*Shukra*), *Rahu* and the Sun (*Ravi* or *Surya*).

Five, referring to the five terraces and the five towers of the sanctuary ensemble, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative. This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*) being: *shabda* (sound), *sparsha* (touch), *rupa* (form), *rasa* (flavor) & *gandha* (odor); the Five Failings or Weaknesses being: *ahmkara* (pride), *moha* (illusion), *lobha* (greed), *kama* (passion), *krodha* (anger); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra;* the five *skandhas,;* the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring*

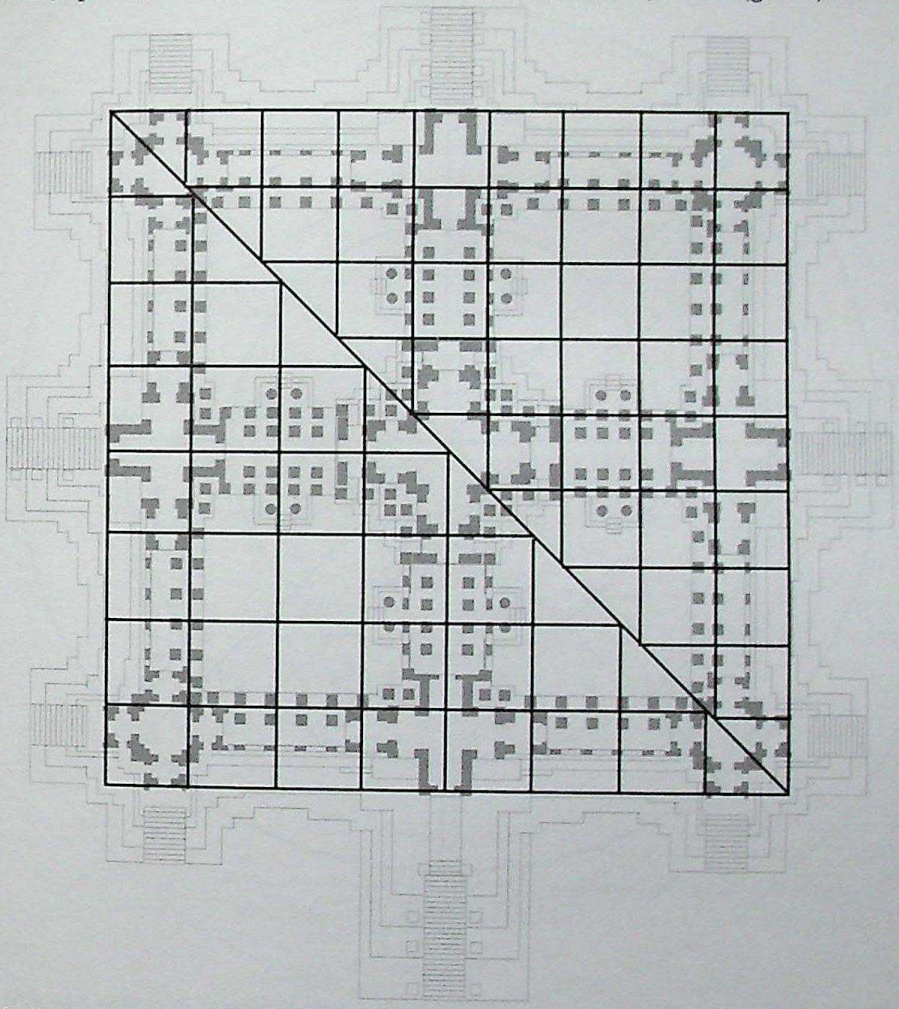


Figure 114: *Angkor Wat,* sanctuary ensemble indicating *Manduka Mandala* and *Paramashayika Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

mChed-lNga); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the seven horses which pull *Surya's* chariot, and the seven streams of *soma*.

Nine, referring to the eight towers at the corners of Terrace-level two and Terrace-level five, plus the central tower connotes completion, a number whose √ is 3 and therefore a magnification of that sacred

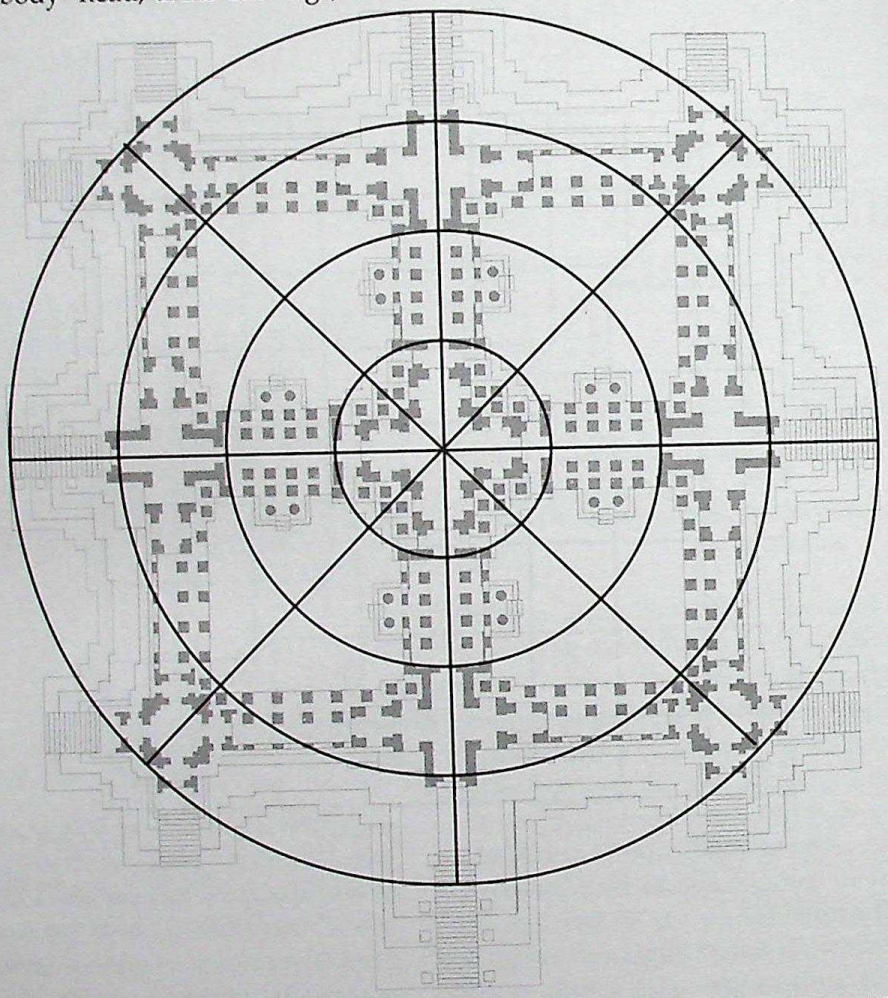


Figure 115: *Angkor Wat*, sanctuary ensemble indicating circular *Manduka Mandala*

the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*).

Seven, referring to the groupings of seven columns in the forecourt denotes the sacred, the mystic being and is often considered as the number of creation and perfection (See: **Figure 113**). It is exemplified in: the planet *Ketu* (the descending node of the moon), the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); and within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, number and the last whole number before the commencement of the compound numbers. It is exemplified in: the planet Mars (*Mangala, Kuja* or *Angaraka*); the nine orifices of the body; the gestation period of the human being; the number of *pada* in the smallest magic square; and the *Navagrahas*. The *Navagrahas* appear to be implied, and also the phases of the moon also seem to be referred to in the cruciform fore court where a double file of seven ranks flank both the northern arm and the southern arm (See: **Figure 113**). The twenty-eight columns of the northern half and of the southern half could be a

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

referent to the moon and its cycles. Twenty-eight is a number that is associated with the moon's cycle (twenty-eight days), a perfect number arrived at by the addition of its divisors, and a number which represents the Planes of Existence (Pali: *Bhumi*). It is further auspicious as it is a combination of the Moon and Saturn, and the Sun. The close proximity of *Bakheng* would appear to underline this association.

If one carries the association further, then certainly the northern and southern "libraries" would seem to be a natural extension (See: **Appendix A, Plate 124**). Their interiors hold twelve columns. Twelve is a cosmic number that comprehends all numbers lower than itself. It is exemplified in: the twelve months, the twelve signs of the Zodiac; the twelve hours of the day; the twelve hours of the night; and the duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*). Additionally, it is represented by the *Anahata Chakra*, as well as being associated with: the Sun the Moon and Jupiter.

Angkor Wat, as a representation of the cosmic mount, as has been stated, is unique in so many ways. A complete view of the ensemble can only be glimpsed from a distance, and then only indistinctly. As one nears the structure, each gallery curtains what is beyond. Veils, delicate stone veils hide and then reveal each successive layer until one reaches the uppermost, central sanctuary. There one confronts the *raison d'etre*--the image of the Lord *Vishnu* for whom Suryavarman II was the corporeal manifestation. It is these subtle, or possibly not-so-subtle changes, these shifts that provides *Angkor Wat* with it well deserved import.

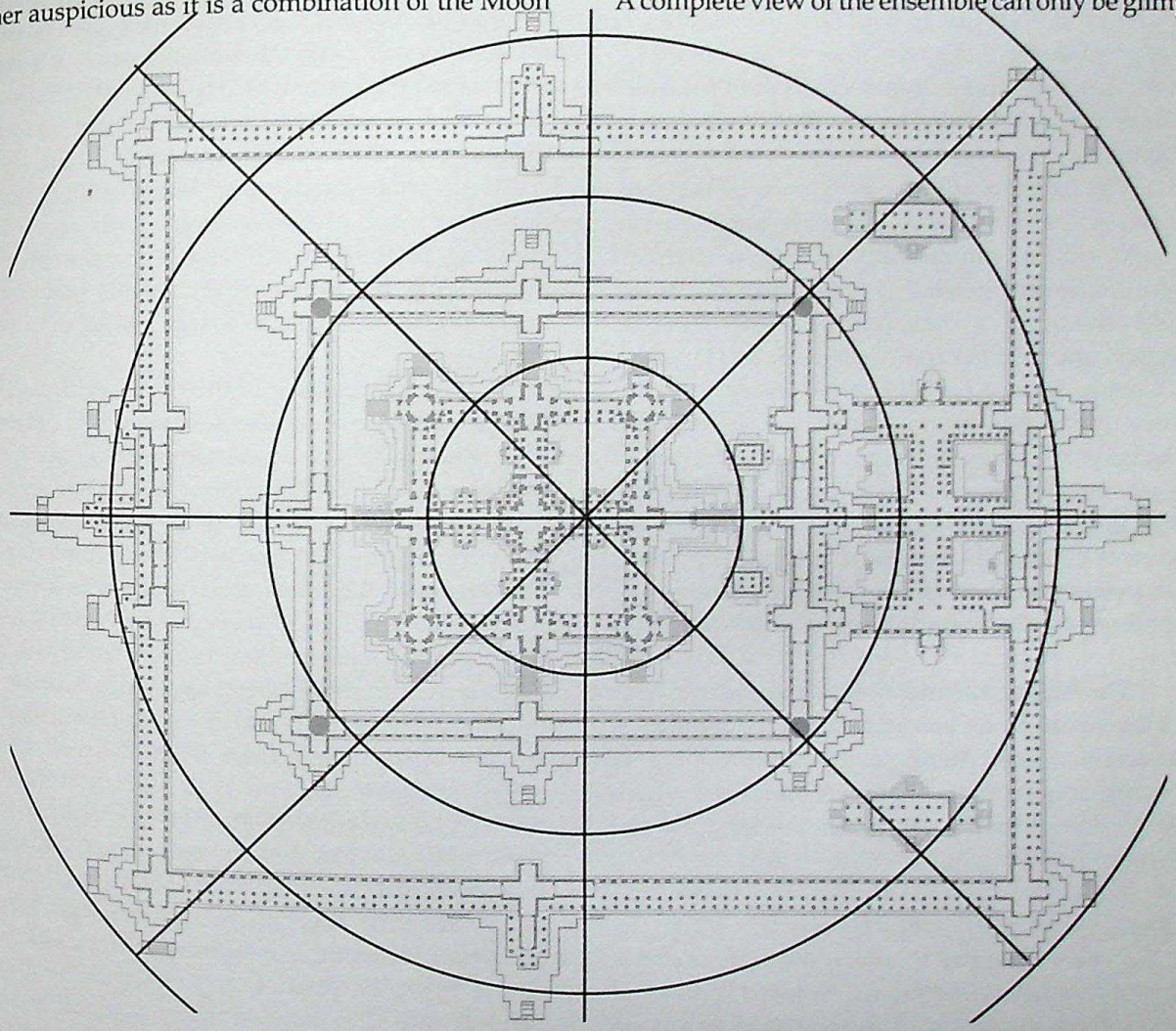


Figure 116: *Angkor Wat*, indicating circular *Manduka Mandala* centered on **B-B^1**

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bayon, Angkor Thom

Angkor, c. 1200 CE

(MB, BG, JA, JD, JDII, PR)

The *Bayon*, the incomparable *Bayon* is one of the most unique, unparalleled monuments of the Khmer civilization, even though it has suffered numerous denigrations, both verbal and physical.[33] The *Bayon*, constructed by the Jayavarman VII, the king who embraced the *Mahayana Buddhist* faith. A king of great military might, whose visage is said by some to stare out in mute representation of the Lord *Buddha*, from nearly every façade that he caused to have built.

The *Bayon*, a sublime statement, is massive, mystical, ominous, foreboding in scale, magical in its aura, and indeed "complicated." It rises to physical and spiritual heights rivaled by few human structures. Its glory rests in its inexactitude rather than its perfection--much in the same way as does a Japanese *raku* teacup. It may be considered as a thirteenth century Asian Mannerist deviation--similar to Michaelangelo's sixteenth century *Laurentian Library* staircase. The sublime does not rest upon perfection of form and technique, but in the ability to elevate the viewer or devotee beyond the mundane world and its pedestrian concerns. In this very manner--i.e., the sublime--the *Bayon* finds kinship with the *Avignon Pieta*.

The *Bayon* combines both *Mahayana Buddhism* and *Brahmanism* in its concept--i.e., a representation of the cosmic *Mount Meru*, sacred to both faiths. In converting or accepting *Mahayana Buddhism*, a faith widely practiced by the populous, the king did not totally abrogate the religion within which the *devaraj* had so comfortably rested. An amalgam was found and the *Bayon* in many ways reflects this state. The state, a diverse structure in which the complexity of the Bayon with its myriad rooms, enclosed spaces and galleries finds parallels in other royal, religious structures of the time--e.g., *Preah Khan*, *Banteay Kdei* and *Ta Prohm*.

Originally conceived in the form of a Greek cross[34] (See: **Figure 117**), the eastern axis was extended and the whole enfolded within a rectangular wall creating an axial plan. The *Bayon* was a structure that always seemed to be in a state of flux. Changes were constantly being made--some major and some minor. In this way it was adapted to the changing needs of the King and the empire.

It is in the center of a massive moat, the whole being called *Angkor Thom*, that this last great temple was erected. The ensemble itself is oriented towards the east and consists of an outer, rectangular, colonnaded gallery with eight cross-axial pavilions, three on each face. This enclosure is an advanced state of ruin. However, one may conjecture that the pavilions of this outer enclosure may have possessed *shikhara* as well. Within this enclosure is a second colonnaded enclosure which has been shifted towards the west. It is adorned by towers, thirty-three in all (See: **Figure 118**). Within this second gallery is a cruciform shape made-up of "arms" oriented on the north-south and east-west axes, a Latin cross. At the crossing of these arms rests a massive circular, multichambered sanctuary. From this sanctuary an arm proceeds towards the east in a number of varied chambers.

At the crossing of the north-south and east-west axes rises the circular sanctuary (See: **Plate 51**). The inner galleries and pavilions are crowned by nine *shikharas*, each with large stone countenances facing towards the cardinal points of the compass, thirty-six in all (See: **Figure 119**). The total effect, combined with the towers of the inner gallery presents a forest of sculpted stone faces all with a sober, staring aspect. *Buddha*-like, some see them as representations of the king, Jayavarman VII (See: **Appendix A, Plate 127**) while others identify them as representations of *Avalokiteshvara*. These faces when lit from different angles, appear to multiply their number. It is felt that this may be a reference to the *Miracle of Sravasti* where the Lord *Buddha* elevated and reproduced himself into thousands of forms to confound arrogant magicians.[35]

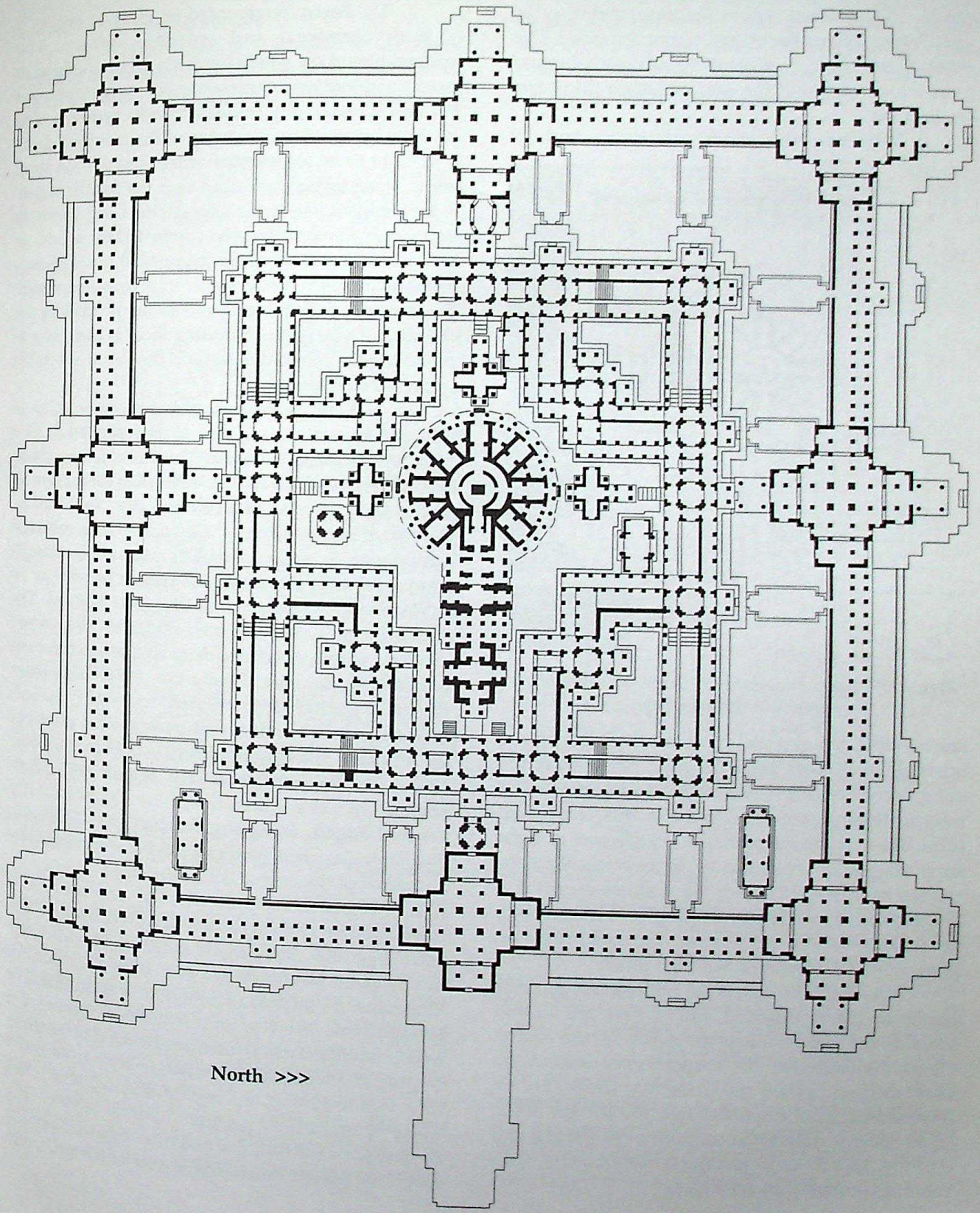
Within the central shrine, the *sanctum sanctorum*, the womb, sat the image of the Lord *Buddha* sitting upon the coils of, and canopied by a multi-headed *naga*. The *naga*, a water symbol, is an apt symbol since the very existence of Angkor depended so very much on water. This image, along with the four-faced *shikharas* seems to underline the very deification of Jayavarman VII, as a *devaraj* or even a *dharmaraj*. In the surrounding chapels were placed images which included those of numerous luminaries of the realm, thereby underlining and buttressing his deification.

A partial ambulatory encircles the inner shrine. However, it cannot be considered as a *pradakshinapatha* in the traditional sense since it does not completely encircle the shrine. The act of *pradakshina*, however,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 50 -- *Bayon*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

can be accomplished within the inner shrine, or by ambulating around the outer colonnaded circle. This external colonnade consists of twenty-six columns/piers which surround the *cella*, although thirty-two are implied.

Whereas, the inner sanctuary and its

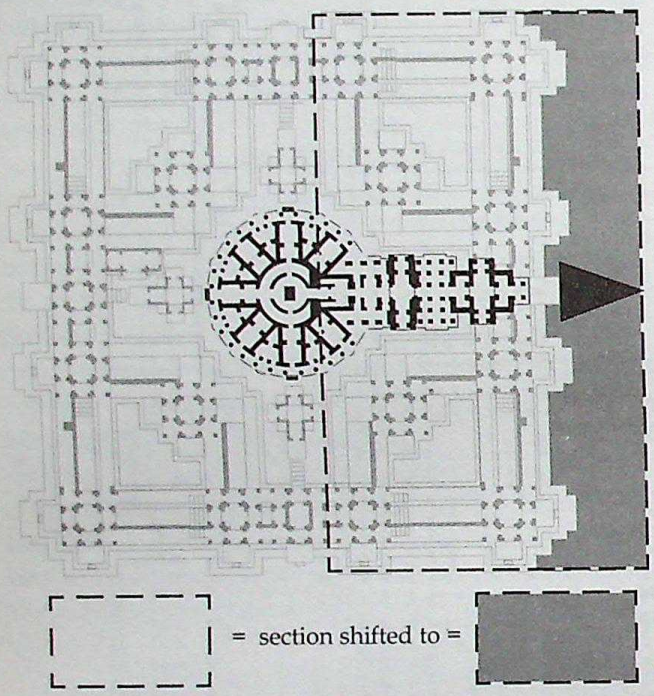


Figure 117: *Bayon*, suggested cruciform plan (sanctuary ensemble shown intact)

surrounding galleries and pavilions deviate from the original Greek cross plan, the eight pavilions of the outer, encircling gallery--i.e., at the cardinal points and intercardinal points--tend to be in this cross-axial form. These pavilions possess a double row of eight supporting pillars each oriented to the cardinal points, totaling twenty-eight pillars. The multiple use of eight and the total of twenty-eight cannot be dismissed, but, must be assumed to represent auspiciousness, perfection and associated with the moon.

As has been stated the north-south entrance pavilions are not medial, rather they are shifted towards the west forming the axis with the central shrine. Nonetheless, the corner extremities of the surrounding, outer galleries/pavilions are in intercardinal axial alignment with the corners of the inner gallery unlike the alignment of *Bakong* and *Bakheng*. This tends to juxtapose cross axiality upon what is essentially an axial plan.

The *Bayon* "represented (a) glorious reality"[36] of both corporeal and spiritual nature. The iconography of the whole has been acknowledged as most complete and represents not only *Mahayana Buddhist* iconography but also Hindu symbols. The *Vaishnava* story of the churning of the primordial sea is thought to be represented at the *Bayon*.[37] A large white, stone turtle was found near the southern gate to the complex. The turtle refers to the Lord *Vishnu* in his form as *Kurmavatara* who supported the world on his back, lifting it out of the primordial sea. The *naga* balustrades which border the avenue would represent the serpent that was employed in the process of the churning. The large surrounding moat is seen then as connoting the primordial sea and the *Bayon* ensemble symbolizes *Mount Meru*.

Not only is this ensemble a representation of the cosmic mount, it is also a representation of a *Mahayana Buddhist mandala*. The circular sanctuary exemplifies a circular *Manduka Mandala* (See: **Plate 5**), and as such the plan of a celestial city. In addition, the fact that the circular sanctuary--the celestial component--is enclosed within a square (rectangle here) represents the terrestrial sphere as well as an adaptation of a *Vajrayana Mandala* (See: **Plate 6**). The enclosing galleried terraces establish the sacred precincts within which the deity resides--in this case, the Lord *Buddha* (See: **Figure 119, #17**).[38] This inner shrine is encircled (protected) by eight chapels (*Lokapala*) at the cardinal and intercardinal points of the compass. The Hindu referent is both to the magic square and the *Navagrahas* (See: **Figure 119**).[39] Both faiths, in this instance, are conceptually acknowledged, accepting the fact that *Mahayana Buddhism* absorbed much of the basic iconography and ritual of the parent faith, Hinduism.

If one accepts the circular sanctuary as a representation of the celestial kingdom, then, as has been suggested, the various radiating chapels and/or the outer pavilions are heavenly provinces or kingdoms. As an area or kingdom was subdued or brought into the Khmer's sphere of influence a memorial chapel could have been erected in the outer courtyard as remains of foundations seem to suggest[40] (See: **Figure 120**). It has been postulated that when these conquered people had accepted the contemporary Buddhist faith the original temple would be pulled down and a new one built, or an

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

area dedicated to the converted state within the second colonnaded enclosure.

The application of a *mandala* to the *Bayon*, appears to necessitate a circular *Manduka Mandala*. When a circular *mandala* is placed over the sanctuary, the second enclosure possesses five towers per face, an *Upapitha Mandala* of twenty-five *pada* is applied with interesting results (See: **Figure 118**). Each of the towers, not including the eight encircling *shikharas* of the sanctuary, fall within parallel *padas*.

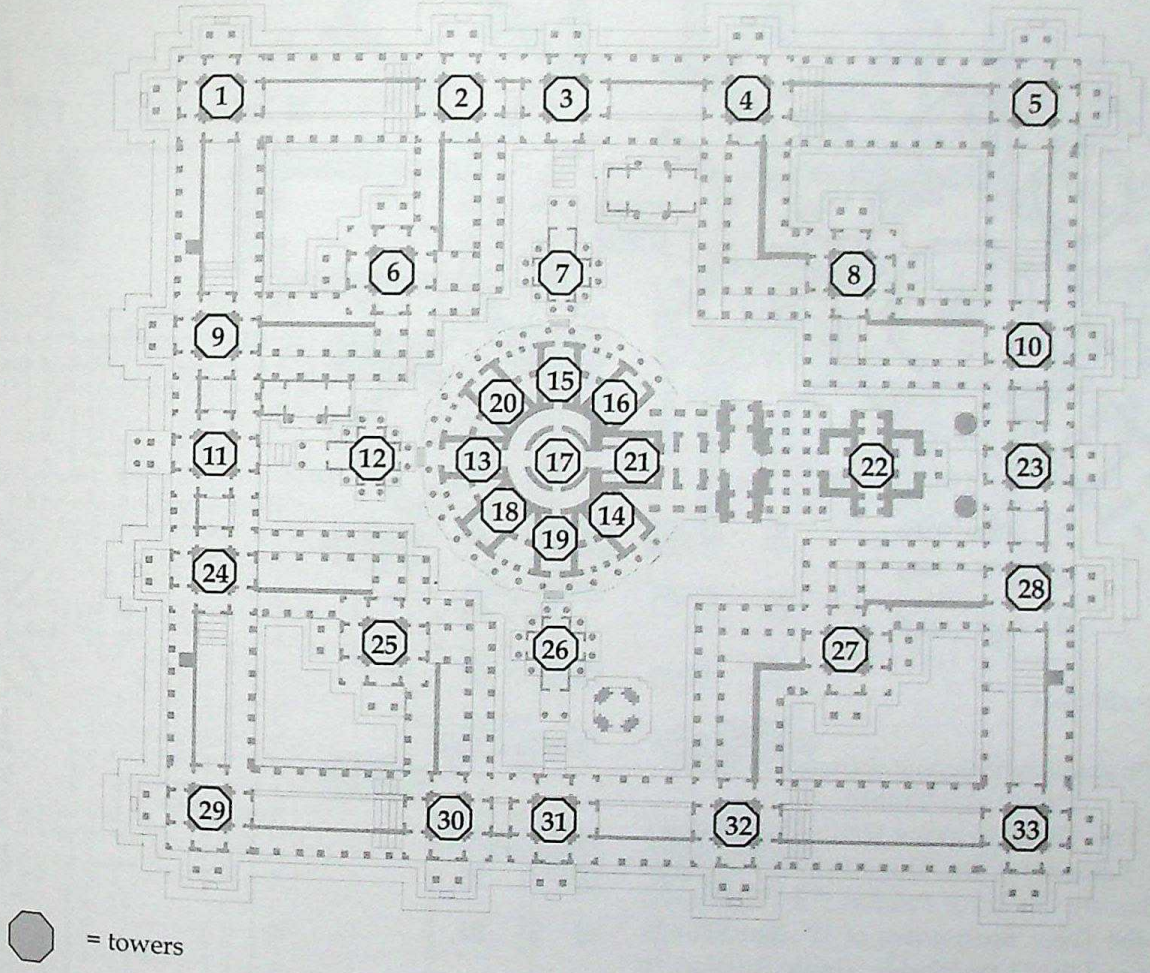


Figure 118: *Bayon*, central ensemble indicating the towers

the inner circle encloses the *garbha-griha*, the *sanctum sanctorum* (See: **Figure 121**). The next circle envelops the aisle that partially encircles the inner core. The third largest circle falls within the radiating chapels and protects the *shikharas* which rise above. The outer circle enfolds the whole. If, on the other hand, a circular *Manduka Mandala* is impressed over the whole ensemble, the inner circle encloses the sanctuary while the next enfolds nearly the whole of the inner colonnaded enclosure (See: **Figure 122**). The third enfolds the four cardinal pavilions of the outer enclosure, and the outer ring protects the whole. Since

If one considers and applies numerology to the ensemble, it provides further clues to the whole. There are seven numbers which seem important to consider: three, four, five, eight, nine, twenty-eight and thirty-three. The numeral three appears again and again both singly and as a divisor throughout the whole complex. In particular in the three main divisions of the complex--i.e., 1) the moat and enclosed area, 2) the rectangular enclosures of the *Bayon* and 3) the circular sanctuary; or 1) the outer, colonnaded gallery, 2) the inner, colonnaded gallery and 3) the circular sanctuary--reflect the number. Three, the numeral of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

perfection, the trinity, the divine family (father, mother, child), and unity plus diversity equals perfection. It symbolizes: The Three Refuges of the *Theravada* tradition being the Lord *Buddha* , the Law (Indic: *dharma;* Pali: *dhamma*) and the Community of monks (Indic: *sangha*); *Brahmá, Vishnu, Shiva; trishula;*

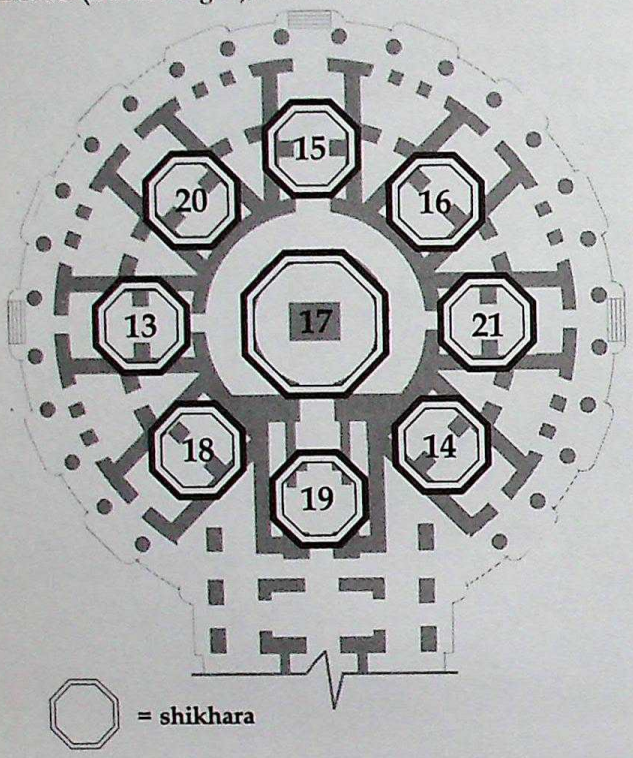


Figure 119: sanctuary indicating *shikharas* in a magic square aggangement

Tripitaka; The Three Regions (Indic: *Arupadhatu, Rupadhatu, Kamadhatu*); the Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three *Bodhisattvas* of Wisdom, Power and Mercy; and the Three Worlds (Indic: Triloka). In addition, the three areas have referent to triple concept of the striving soul--i.e., the moat and enclosed area as the base, muddy ooze in which the lotus seed sprouts, the water through which the plant strives to reach its goal, and the fruition in the bloom of the sacred lotus, in the sunlight and high above the water--not unlike the Neo-Platonic concept. The four heads which adorn each of the towers may refer to the four heads of the Lord *Brahmá*. Numerous sources state that they may refer to *Lokeshvara* (aka *Avalokiteshvara*).[41] Nonetheless, four is the numeral of completeness, perfection, the practical element, the perfect number of a higher plane, and a number whose √ is 2. Four represents: the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.:

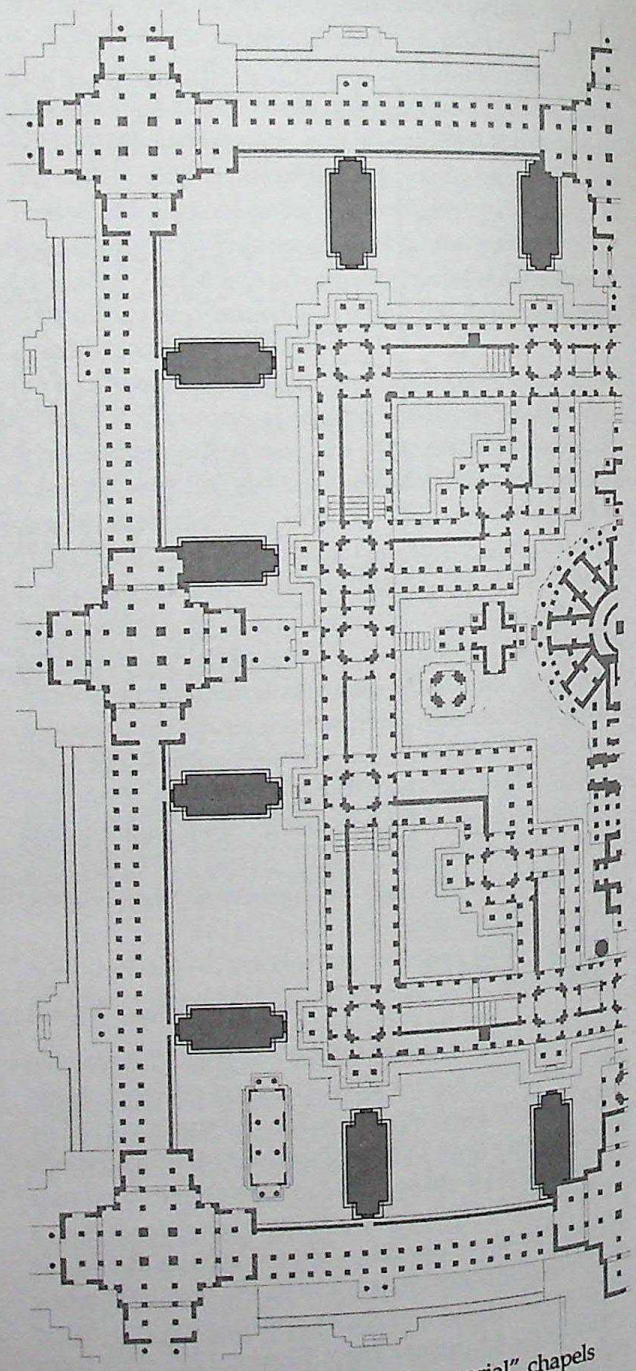
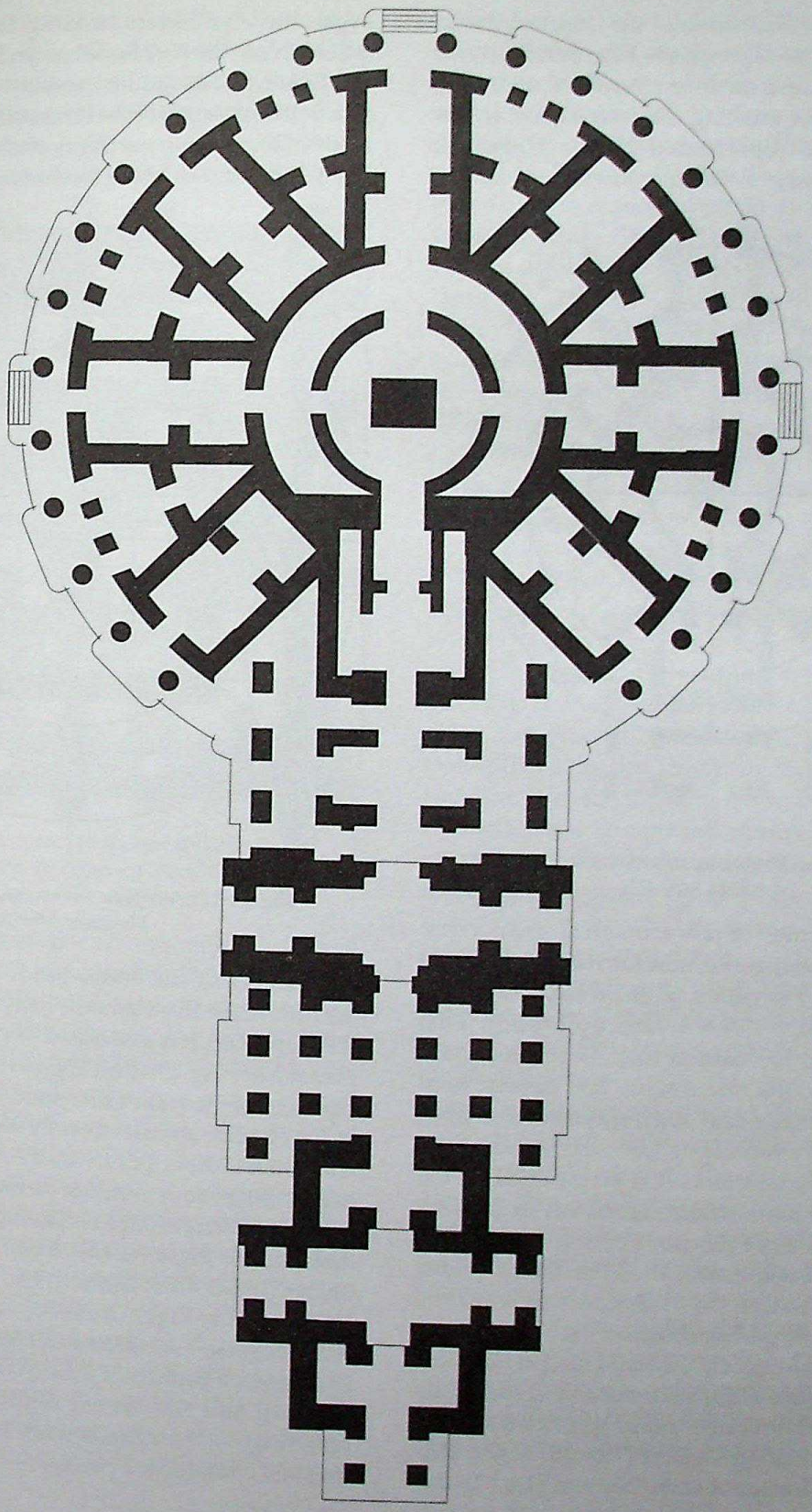


Figure 120: *Bayon*, indicating "memorial" chapels between outer and inner colonaded enclosures

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 51 -- Plan, *Bayon* Sanctuary, Angkor



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

sKu-bZhi); the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); and the four streams of milk from the heavenly udder creating the four sacred rivers. Additionally, it is represented by the *Muladhara Chakra*. Five, referring to the five towers per face of

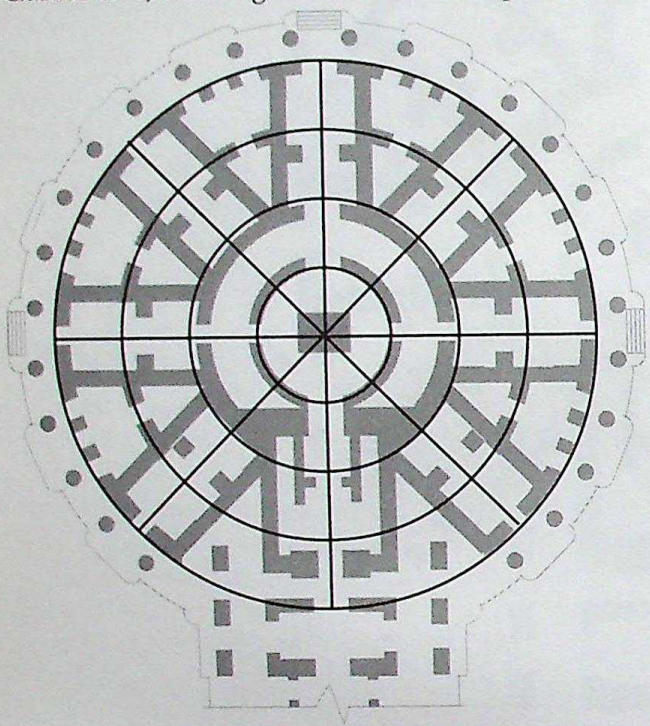


Figure 121: Angkor Thom, sanctuary indicating circular *Manduka Mandala*

the outer enclosure, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: *kamaguna*); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major

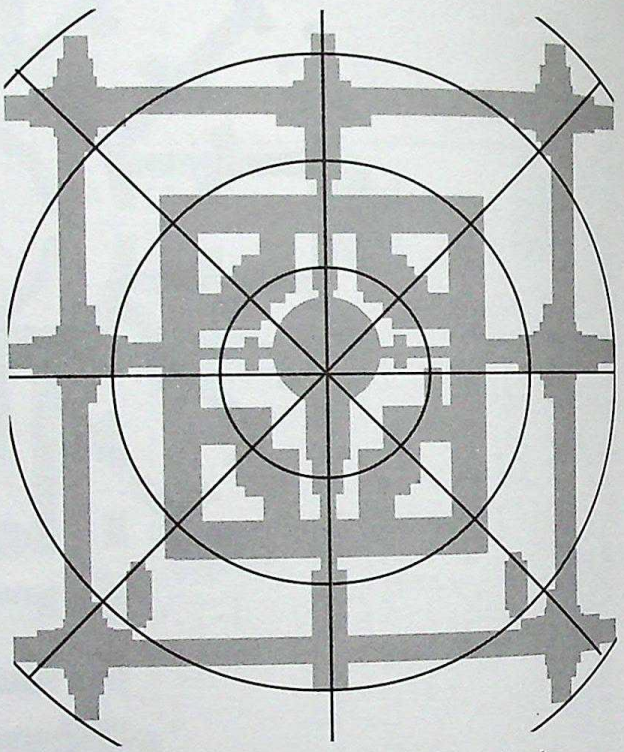


Figure 122: Angkor Thom, indicating circular *Manduka Mandala*

appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Eight, referring to the eight pavilions of the outer gallery and the parallel divisions of the circular shrine, not only represent the cardinal and intercardinal points of the compass but also a highly auspicious number--a number of perfection and good fortune. Eight is exemplified in: *Manduka-mandala*; the Eight *Mahabodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. Nine, referring to the nine towers over the sanctuary, denotes completion, perfection, force, wisdom and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion and space. It is called perfect since it is

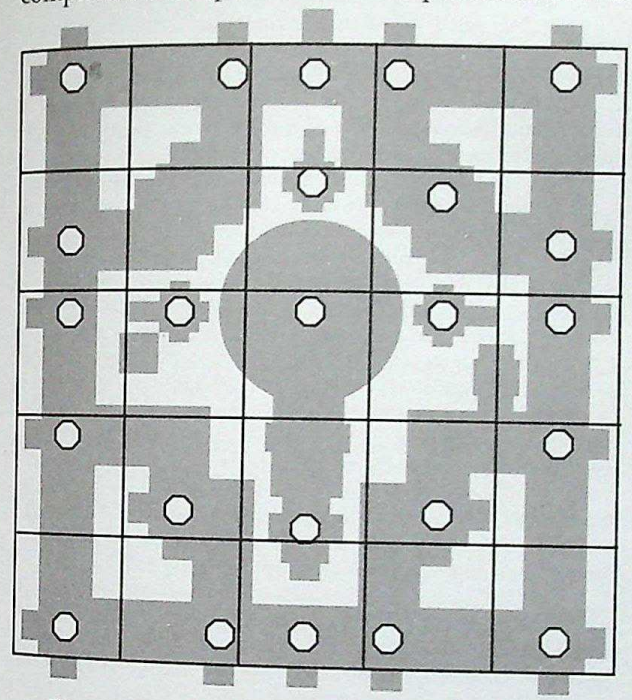


Figure 123: *Bayon*, inner enclosure and sanctuary ensemble indicating an *Upapitha Mandala* and the location of the *shikharas*

formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*) being: pearl, ruby topaz, diamond, emerald, coral, sapphire, moonstone, sardonyx; the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada;* the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Twenty-eight, referring to the combined pillars within the outer eight pavilions, is an auspicious number, this numeral represents a number that is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*, *kamasugati-bhumi* and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*). The thirty-three towers (See: **Figures 118 & 123**) most obviously refer to the *Vedic Devas*--i.e., *Prajapati*, *Indra*, the twelve *Adityas*, the eleven *Rudras* and the eight *Vasus*.[42] It is a supreme number of perfection. This numeral denotes perfection (two three's), and completion. It is exemplified in: the thirty-three deities of the *Vedas*--eight *Vasus*, eleven *Rudras*, twelve *Adityas*, *Indra* and *Prajapati*, and the number of vertebrae in the spinal column. As a compound number, it is related to: the planet Jupiter (*Brihaspati* or *Guru*). When reduced it produces six and, therefore, the planet Venus (*Shukra*). Thirty-six, referring to the four faces times the nine towers (*shikharas*), represents macrocosmic completeness, and a number whose √ is 6. This numeral, as any compound number has an opposite effect and may be considered as inauspicious. It is exemplified in the thirty-six *tattvas* of *Kashmiri Shaivism*. It is also the number of *pada* in an *Ugrapitha Mandala*. As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) and the planet Venus (*Shukra*). When reduced it produces nine and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*).

The Bayon is the culmination, and the last of a long line of important developments. The *Bayon* may be seen as a radical break in tradition. However, from the duplication of single elements (a simple, cross-axial shrine)--e.g., as seen in the *Preah Ko* or the *Bakheng*--to that single element to which extensions have been added--e.g., the *Ta Keo* and *Baphuon*--through that single element with colonnaded and enclosed extensions--e.g., *Angkor Wat*--and, finally, to the circular shrine of the *Bayon*, the Khmer mount an impressive architectural development. The *Bayon* exemplifies the concept that beauty can not only be found in examples of perfection, but, also in those things that deviate from the perfect. It is, truly, a major marvel of the Khmer civilization as well as one of the most important *Mahayana Buddhist* monuments.[43]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Cambodia, The Khmer)

[1] E. Aymonier, J. Boisselier, George Coedès, S. Levi, A. Masson, A. Migot, etc. are among the numerous scholars whose works are most illuminating.

[2] The bold faced capital letters and Arabic numerals refer to those found in **Figure 81**.

[3] The plans illustrated in both BG and PR indicate that the northwest shrine (6) has been moved southward, close to the central back shrine. The total ensemble is therefore thrown into an asymmetrical arrangement. However, BG and PR do not describe this anomaly. PR, p. 46, states that ensemble of six shrines to be "symmetrical only along the east-west axis." JB makes no mention of this. Therefore, **Plate 39** shows them as symmetrical.

[4] GC, p. 111. As Coedés notes the name of the *lingam*, *Indreshvara*, is associated with *Shiva* (*Ishvara*). This becomes not only a tangible masculine symbol associated with the masculine kingship, but, also an icon underlying the *devaraj*.

[5] Ibid, p. 103. There is some debate as to how this term should be translated--i.e., "god-king" or "king of gods."

[6] The bold faced capital letters refer to those found in **Figure 85**.

[7] The bold faced capital letters refer to those found in **Figure 90**.

[8] JD asserts that the two brick towers were to be considered as the abodes of the thirty-three gods of the Vedas, pp. 20-21.

[9] MB, pp. 167 & 175. PR, pp. 54-56. BG I, pp. 103-104.

[10] Each successive terrace is diminished in height creating a forced perspective on the already tall structure. Even the other elements of each terrace are likewise reduced in scale. JD, p. 11.

[11] MB, p. 182.

[12] BG I, p. 123. Although others say 1000 CE; PR, pp. 74-76.

[13] The bold faced capital letters refer to those found in **Figure 96**.

[14] Noteworthy among these is the *Preah Thkol*, the *Phimai*, as well as the extension of the portal axial arms as *Pr. Khna Sen Kev*, and *Pr. Thom* of *Koh Ker*, all as variously noted in JB.

[15] MB identifies the (*Prasat Hin*) *Phimai* as being "at Angkor," p. 166. It is not, although it may be considered as Angkorian in concept.

[16] The term *mandapa* is used in this instance. SV, p. 90, refers to this area as an antechamber. The Indian prototype enlarges the width of the *mandapa* in proportion to the width of the whole *garbha-griha*.

[17] This room is similar to the *mukhamandapa* of the typical Indian temple.

[18] The term *garbha-griha* is used here, as it had been avoided in referring to the sanctuaries of the *Bakheng*, the *Ta Keo* and the *Prasat Hin Phimai*.

[19] BG, p. 166.

[20] JD suggests that the vastness of this structure could not have been completed during the reign of Udayadityavarman and was probably started by his predecessor, Suryavarman I, pp. 33-34.

[21] BG, p. 125.

[22] See: *Bakheng* above.

[23] JF, pp. 398-399.

[24] *Angkor Wat's* propitious rediscovery may be likened to: the discovery of the *Tomb of Tutankhamen*, making him the most noteworthy of the Ancient pharaohs of Egypt. When, in fact, he is, at best, a very minor monarch, and certainly not as important as the likes of Zoser, Seti, Rameses II, or Akhenaton. *Angkor Wat* is certainly one of the important, impressive monuments of the Khmers, but not the greatest, not a solitary prime example. It is a sister among such greats as: *Bakong*, *Bakheng*, *Ta Keo*, *Baphuon* and *Bayon*. *Angkor Wat's* notability, beyond its obvious aesthetic worth is to be found in the fact of its early discovery and rather complete restoration.

[25] The bold case capital letters refer to those found in **Figure 111**, while the **Terrace** designations refer to **Figure 110**.

[26] HS, pp. 47-57, discusses the rather complex rules and formulae that are used in the consideration of site, orientation, time for the beginning of construction, etc., of the Indian temple. Little has changed over the centuries, and certainly this type of consideration (Hindu *feng shui*, if you will) was applied, in part, to those "Indianized" locales throughout Southeast Asia.

[27] The honorific "Lord" is attached to the *Trimurti*, especially to the Lord *Brahmá* in order to differentiate him from the Ultimate One, The Absolute One, the neuter *Brahma*.

[28] Even though, as has been stated, Suryavarman II was a *Vaishnava*, it would seem efficacious that certain traditions from the past be maintained. The shift from a *Shaiva* to a *Vaishnava* was not such a drastic change. Certainly, not as dramatic as Amenhotep IV's (aka Akhenaton) acceptance of a single deity in ancient Egypt or even Jayavarman VII espousal of Buddhism.

[29] 4:8 refers to the four inner columns, fronted by eight [30] 8:16 refers to the number of columns in each court (double counting the corner columns) in **Figure 112**.

[31] 16:32 refers to the number of columns in two (half of the four) courts (double counting the corner columns) in **Figure 112**.

[32] 32:64 refers to the number of columns in the four courts (double counting the corner columns) in **Figure 112**.

[33] The *Bayon* has been characterized as: "hasty," "ill-trimmed," a representation of the decay of the Khmer empire and "complicated"; MB, BG, JA, JD, PR. In addition, considering its greatness, it has not had the advantage of a major restoration that a number of its predecessors have enjoyed--notably *Angkor Wat*.

[34] MB, p. 188.

[35] BG, p. 183.

[36] JD, p. 48.

[37] JDII, pp. 100-101.

[38] Bold faced numbers are found in **Figure 118 & 119**.

[199] The magic square is thusly constructed:

20	15	16	51
13	17	21	51
15	19	14	51
51	51	51	

[40] JD sees these foundations as supporting chapels which surrounded the sanctuary ensemble.

[41] There is a rather obscure four-head *Tantric* form of *Avalokiteshvara* with twenty-four arms, white in color and a form of the *Dhyani Buddha Amitabha*. *Avalokiteshvara*, the *Bodhisattva* of Compassion of whom Jayavarman VII considered himself as the personification, saw himself as the prime benefactor of his people.

[42] SH, p. 6.

[43] In a very personal assessment, the *Bayon* is second only in its glory and religious significance to the incomparable *Borobudur* of Java.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Myanmar
(Burma)

Nat-Hlaung-Kyaung, Pagan
Nan-Hpaya, Pagan
Myin-Pya-Gu, Pagan
Shwe-Zigon Pagoda, Pagan
Naga-Yon, Pagan
Ananda Temple, Pagan
Dhamma-Yan-Gyi, Pagan
That-Byin-Nyu, Pagan
Gawdaw-Palin, Pagan
Myinkaba Kubyauk-Nge, Pagan
Bogyoke-Mi Kubyauk, Pagan
Dhamma-Yazika, Pagan
Mingala-zeidi, Pagan
Pentagonal Temple (*Pancha Buddhas*), Pagan
Paya-Thon-Zu, Pagan

When one considers the cultures of Myanmar (Burma) the kingdom of Pagan assumes a paramount place. Its roots are in the Ninth Century, CE. The Eleventh Century sees a great flurry of building, and the decline of the Thirteenth Century is capped by the invasion of the Mongols in 1287 CE.[1] Great, massive temples and *stupas* rise from the plain in a profusion and concentration rarely seen--e.g., the *Shwe-Zigon Pagoda, Ananda Temple, Dhamma-Yan-Gyi, That-Byin-Nyu, Dhamma-Yazika*, among many. These structures impress not only by their size, but also because of their sheer beauty.

On the plains of the Irrawaddy River near its confluence with the Chindwin River, the great royal city of Pagan arose. Its placement was strategic as it was on one of the major trade routes between China and South Asia as well as the kingdoms of Sumatera and Java. This route had become, by the ninth and tenth centuries, one of no mean economic importance and Pagan was to benefit immensely from this fruitful location. Not only were its coffers filled, but also through this artery flowed rich cultural and technological information and influences that the kings were to utilize. The bend in the river also provided it with a degree of protection, a natural barrier which made the defence of the city somewhat easier, particularly from the north and west.

The climate in and around Pagan is rather dry, the rainfall barely enough to sustain human habitation. However, the flat plains, the abundant Irrawaddy and the numerous small streams which flow into this river in and around Pagan would have made agricultural enterprises not an impossible undertaking. Damming, the building of canals and irrigation was practiced in the area north west of the city, having been supported by Anawratha. It has been suggested that the present climate may have been effected by deforestation that would have been required to fire the brick kilns that fed the prodigious building programs of the Pagan kings--a fate that has been suggested as the cause of the decline of Mohenjo-daro and Harappa several millennia before. Even though its annual rainfall is now quite low, Pagan had nonetheless benefited from its riverine location.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Myanmar (Burma) (Concluded)

Pagan steadily grew to prominence, subduing the earlier city states of Pyu and Shri Ksetra, among others, amalgamated the various ethnic contributions and became a cosmopolitan city of importance. Their with associations with India and Sri Lanka in the areas of trade, religion and intellectual pursuits fertilized their culture and growth. Their artistic development drew from their associations. Anawratha (aka Aniruddha, Anoratha), the great king of the mid-eleventh century seems to have been the ruler who benefited from their connections and began the great building programs that were to proceed until the kingdom's downfall. When his envoys to the Mon King Makuta of Thaton were rebuffed in their mission to obtain Buddhist texts, he subdued the city and removed all its artisans to Pagan along with its hapless king.

Their political aspirations were not as widespread as other civilizations within the region. The great Irrawaddy basin and the areas to the western coastline were the major area of their political ambition. To the east glowered the powerful Khmer Empire and the later Thai kingdoms, to the north China, and to the south the remnants of the Java/Sumatera kingdoms. Pagan was strategically buffered by a formidable range of mountains that ran along the eastern edge of what is now Myanmar. They did not, of course, eschew warlike activity when the opportunity arose but their appetites were not so much involved with conquest as they were in expanding the lucrative commercial empire.

Buddhism was the faith practiced by the people of Pagan, unlike its sister empire across the Indochina peninsula, the Khmer. Pagan practiced an amalgamated form of *Theravada Buddhism* established by Anawratha as the state religion. It freely incorporated *Brahmanic* elements and accepted the indigenous religions including the spirits known as *nat*.[2] The kings of Pagan did not assume the mantle of a *devaraj*, rather they saw themselves as a Universal Monarch (Ind.: *Chakravartin;* Pali: *Cakkavatti*), or as the King of the Law (Ind.: *Dharmaraja;* Pali: *Dhammaraja*), or even still as a Monk King (Pali: *Sangharaja*).[3] In this role, they felt it necessary to construct numerous temples, *stupa* and shrines for their merit.[4]

The Islamic incursions that dominated the Sumatera and Java kingdoms as well as their close neighbor the later Malay States, did not effect the Burmese states to any great extent. This may have been due, in part, to the strong and entrenched Buddhist/*Nat* beliefs of the people, and that the more aggressive, exclusive and proselytizing nature of Islam was in stark contrast to their passive and inclusive faith.

The kingdoms that were to rise in the later histories of Myanmar were pale relatives to the artistic brilliance of Pagan. Others were to be greater conquerors, none were greater builders.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Nat-Hlaung-Kyaung

Pagan, c. 931-964 CE

(PS)

The name of this temple, *Nat-Hlaung-Kyaung*, translates as "Shrine Confining the Devas."[5] Even though the temple is dedicated to the Lord *Vishnu*, it is, by its very name, associated with the local worship of *Nats*. It is a viable referent to earlier forms of traditional Indian temple plans--e.g., the *Parvati Temple* at Nachna (c. 450-499 CE) (See: **Appendix A, Plate 94**).

There is little religious ceremony inherent in *Theravada Buddhism*, particularly as applicable to a monarch or courtly practice. On the other hand the culture of India had, and has a rich history in courtly ceremony. It would seem evident that the early Buddhist aristocrats of Pagan must have employed *Brahmans* as their masters of ceremony, much in the same manner as the modern Thai Buddhists. *Brahman* priests probably had constructed the temple, here dedicated to the Lord *Vishnu*. It is important to note that obviously these two faiths had the ability to peacefully coexist within the culture of Pagan.[6]

The *Nat-Hlaung-Kyaung* also evolves from forms utilized by the older Pyu Kingdom. This form, referred to as a *mandapa*, would relate, *en plan*, to the Thai *mondhop*, an example being found in the *Phra Mondhop* of *Wat Mahathat*, Bangkok. Certainly, it does not conform with the *mandapa* of the Indian prototypes--i.e., an assembly hall attached to a *garbha-griha*. However, square *mandapas* do occur regularly in India. The *Nat-Hlaung-Kyaung*'s form is like a *garbha-griha* with a single *pradakshinapatha* encircling the sanctuary (See: *Tivanka Pilimage*, **Plate 24**).

There are ten niches on the outer walls of the *mandapa*-form--two on either side of the entrance of the east façade and two each, adjacent to the corners of the north, west and south façades. The niches of the north, west and south bracket three fenestrations each, nine total. These niches may have held images of the *Dashavataras* of the Lord *Vishnu*. The outer wall surrounds the inner sanctuary creating a *pradakshinapatha*.

The interior sanctuary area, rectangular *en plan*, is conjectured to have housed an image of Lord *Vishnu* reclining on the serpent *Ananta*--i.e., *Anantashayana* (*Vishnu*). The small door which gives access to the inner sanctuary is narrow and restricts any ambient lighting that may enter the *pradakshinapatha*. On the exterior three walls (north, west and south) of the inner sanctuary are three recesses that held four-armed images associated with the Lord *Vishnu*. These face outward from the *garbha-griha*, into the ambulatory. They were lighted by the pierced openings on the opposite, outer walls.

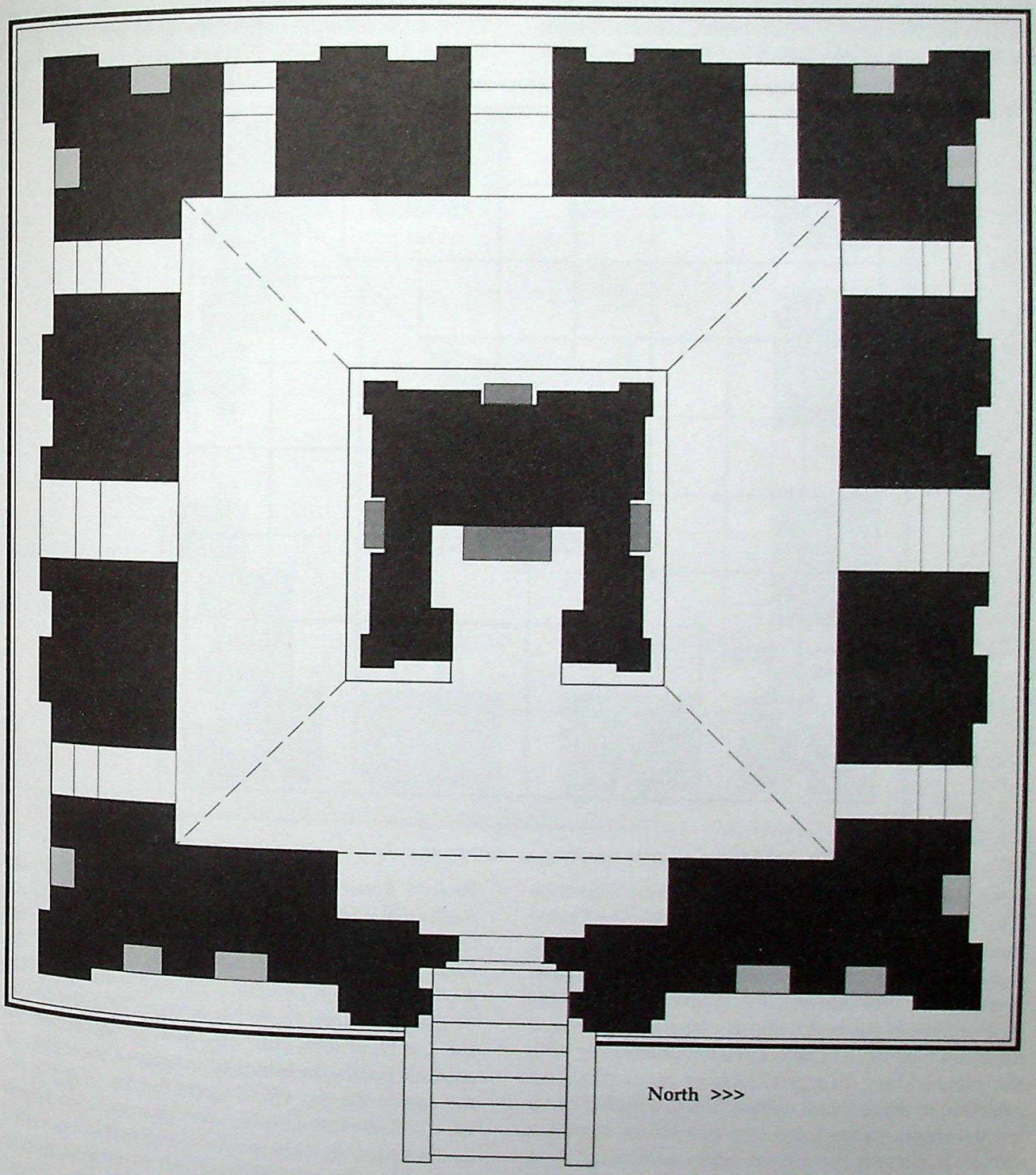
The divisions of the temple suggests that it may have been derived from a *mandala* of sixty-four or eighty-one *padas* (See: **Figure 124**). The application of a circular *mandala* appears unnecessary in this case.

Numbers play a role in the *Nat-Hlaung-Kyaung*. Three, nine and ten appear to be of some importance. Three, referring to the three windows on the north, south and west facades, and the three internal niches, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection (1 + 2 = 3). This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; the *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*) being: *arupadhatu, rupadhatu* & *kamadhatu*; the Three Cities (Indic: *tripura*); the Three Times (*kála*) being: *bhuta-kala* (past), *vartamana-kala* (present) & *bavishya-kala* (future); the Three Forces (*guna*) being: *sattvaguna, rajoguna* & *tamoguna*; the *trivarga* (objects of human pursuit) being: *dharma* (virtue), *artha* (purpose) & *kama* (pleasure); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law) & the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Nine, referring to the windows, denotes completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. It is the last whole number before the commencement of the compound numbers. This number connotes completion (3 + 3 + 3 = 9 or 3 x 3 = 9) and space. It is called perfect since it is formed from three and nine always reproduces itself when

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 52 -- *Nat-Hlaung-Kyaung*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

multiplied with any number (9 x 9 = 81=9, 9 x 18 = 162 = 9). It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*) being: pearl, ruby topaz, diamond, emerald, coral, sapphire, moonstone & sardonyx; the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada;* the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Ten, referring to the external niches, denotes perfection or completeness, success, and cosmic wisdom, as well as *karma*. It further represents unity emerging from multiplicity. It is the first compound number. This integer is: (1 + 2 + 3 + 4 = 10). It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *dashavataras*); the *dasha-vahini-kala* (ten powers of the vital fire) being: *rechaka, pachaka, shashana, dahaka, plavaka, ksharaka, kshobhaka, irimbhaka* & *mohaka*; the *dasha-yonis* (or *dasha-shaktis*); the Ten Sense Powers (Indic: *indriyas*); the Tenfold Knowledge (Indic: *dasha-nanam*); the *dasha-siddhis* of the *Shri Chakra's Trailokyamohana* being: *anima, laghima, mahima, ishitva, vashitva, prakamya , bhukti, iccha, garima* & *sarva-kamasiddhi*; the ten books of the *Rig-Veda*; the Ten Insights (Pali: *solasa-nana*); the Ten Powers of *Buddha* (Indic: *dashabhala*; Tib.: *sTobs-bCu*); the Ten Directions (Tib.: *Phyogs-bCu*) which are: the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; *Dasha-Mahavidyas*; and ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (1 + 0 = 1) (*Ravi* or *Surya*). Additionally, it represents by the *Manipuraka Chakra*.

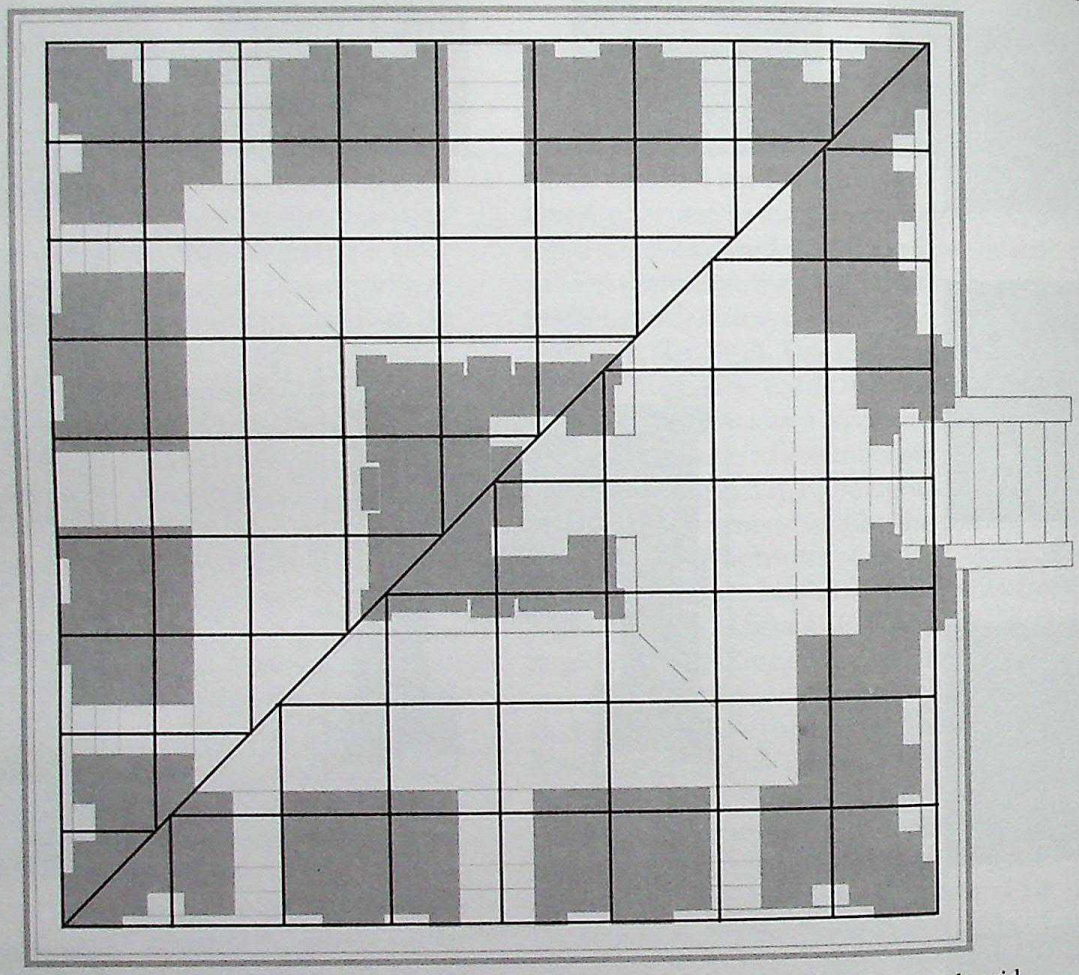


Figure 124: *Nat-Hlaung-Kyaung*, temple pkan indicating sixty-four and eighty-one *pada* grid

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

This shrine indicates the interrelationship and symbiotic association of the two faiths--Buddhist and *Brahmanic*. Built within a Buddhist culture, this Hindu shrine exhibits icons of its parent faith as well as of the faith of Pagan. The *Nat-Hlaung-Kyaung* is a *gu*, a generalized term for temples of Pagan and also a reference to a cave, a holy cave. Its dark interior, oriented east to west and its obvious reference to the *mandala* are potent iconic examples of both faiths. The plan is strongly Hindu, its elevation is equally explicit in its reference to the forms of Pagan.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Nan-Hpaya

Pagan, c. 1044-1077

(JA, PS)

The *Nan-Hpaya* holds a special place amongst the temples of Pagan. It is considered to be the first of the free standing Buddhist *gu* temples of that fabled city. The concept of the sacred cave (*gu*) is an ancient one, and is to be found in virtually every religious faith. Not only does it represent a place of solace for meditation, it also connotes a return to 'mother earth,' the womb.

The structure of *Nan-Hpaya* is rather complete and in good condition with the exception of a porch which extended outward from the entrance. Unlike the majority of temples in the immediate area, it makes rather extensive use of stone as a veneer over a brick core. It would appear that this sheathing was more for purposes of protection than for aesthetic reasons. As with all of the temples of Pagan the *Nan-Hpaya* had been whitewashed and polychromed.

The square sanctuary relates to the older *Nat-Hlaung-Kyaung; mandapa* in form with a *pradakshinapatha* encircling the sanctuary. Further, as in many of the early Pagan temples the influence of what went before exerts certain influence. Not only the Indian prototype, but also the Pyu as well (See: **Appendix A, Plate 128**).[7] Here the sanctuary differs considerably from others of the period in that it is formed by four massive piers supporting the *shikhara*. This approach is unlike the majority of Pagan *gu* temples--i.e., a confined space enclosed by massive masonry walls, possessing a narrow doorway(s) as if hollowed out from a solid core--and relates positively to the *Ladh Khan*, Aihole . In the center of the sanctuary stands a plinth on which, it is conjectured, rested a freestanding image of the Lord *Buddha*. Over this area rises the open core of the *shikhara* with a small window piercing its cardinal points, allowing sunlight to filter down into the lower interior.

The windows of the *shikhara*, the three masonry-pierced windows of three façades--i.e., the north, west and south--and the open sanctuary of four piers allowed more light to penetrate the interior than other Pagan temples. The interior wall surfaces of the structure possess two niches between the three windows of the north, west and south surfaces and on either side of the entrance--eight in all. These would have held images appropriate to the Lord *Buddha*.

En plan, Nan-Hpaya appears to be a departure from previous Burman prototypes. It relates to Sri Lankan forms as well as a number of Indian temples,[8] and appears to serve as an example for, or at least an influence on the Thai *Wat Chedi Chet Yot* (See: **Plate 75**).

The opening up of the sanctuary would have bathed the primary image in soft light that could have been seen from the entrance hall. This would seem to

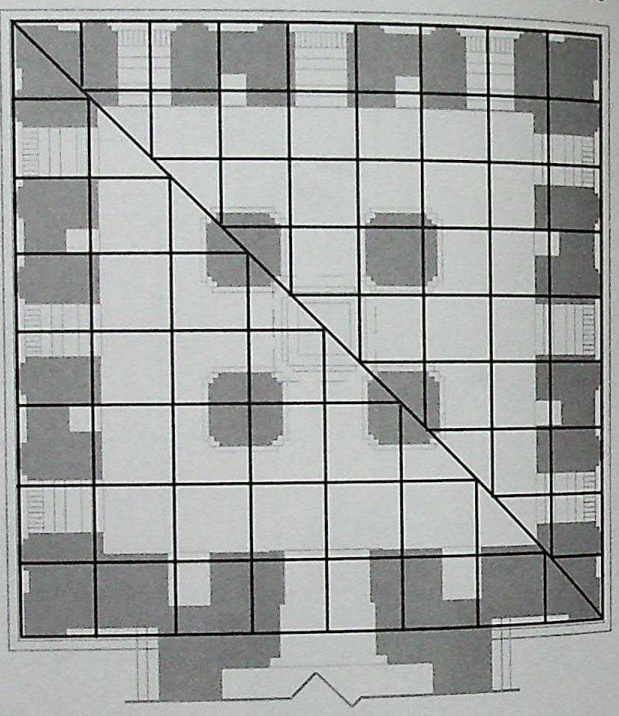


Figure 125: *Nan-Hpaya*, sanctuary indicating sixty-four and eighty-one *pada* grid

defeat the *gu* icon and may have resulted from the Buddhist heterodoxy that apparently was prevalent in Pagan during its early phase. Nonetheless, the orientation of the *Nan-Hpaya* is traditional, east to west.

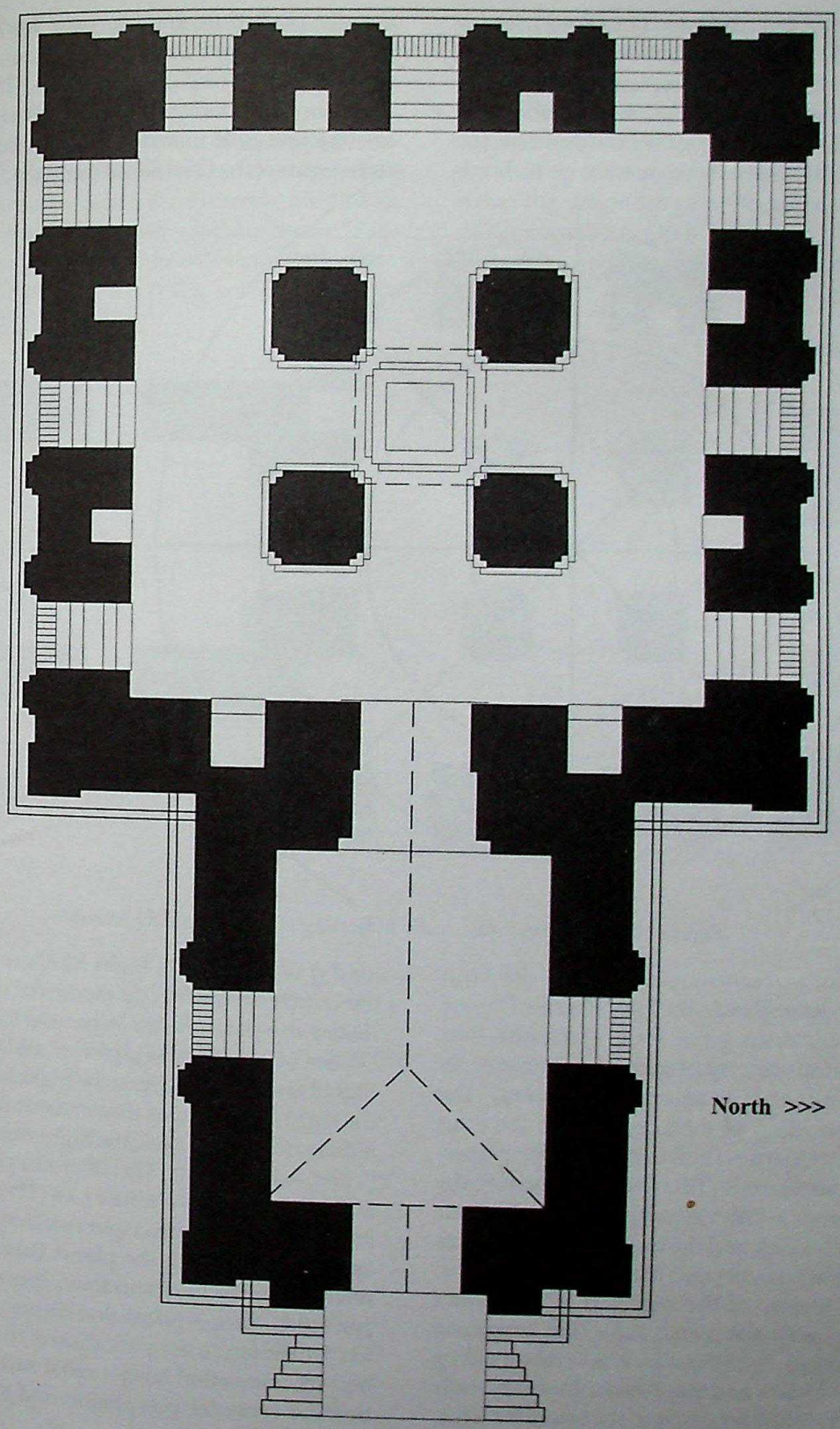
Either a *Manduka Mandala* or a *Paramashayika Mandala* appear applicable to the *Nan-Hpaya* (See: **Figure 125**). In both instances the *Brahmásthana* encloses the central, altar area. In addition, if a circular *Manduka Mandala* is laid over the plan, it too appears applicable (See: **Figure 126**). The outer ring encloses the sanctuary square. The second ring bounds the *pradakshinapatha*. The third circle touches the outer edge of the *pradakshinapatha*, and the inner circle passes through the center of the four supporting piers and protects the altar.

The iconography of numbers would seem to be of some importance in the *Nan-Hpaya*. Three numbers

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 53 -- *Nan-Hpaya*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

appear prominently: four, eight and nine. Four, referring to the four pillars supporting the shikhara and surrounding the altar, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Eight, referring to the internal niches, denotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Nine, referring to the nine windows, connotes completion, perfection, force, wisdom and silence. A number whose $\sqrt{}$ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. This number connotes completion and space. It is called

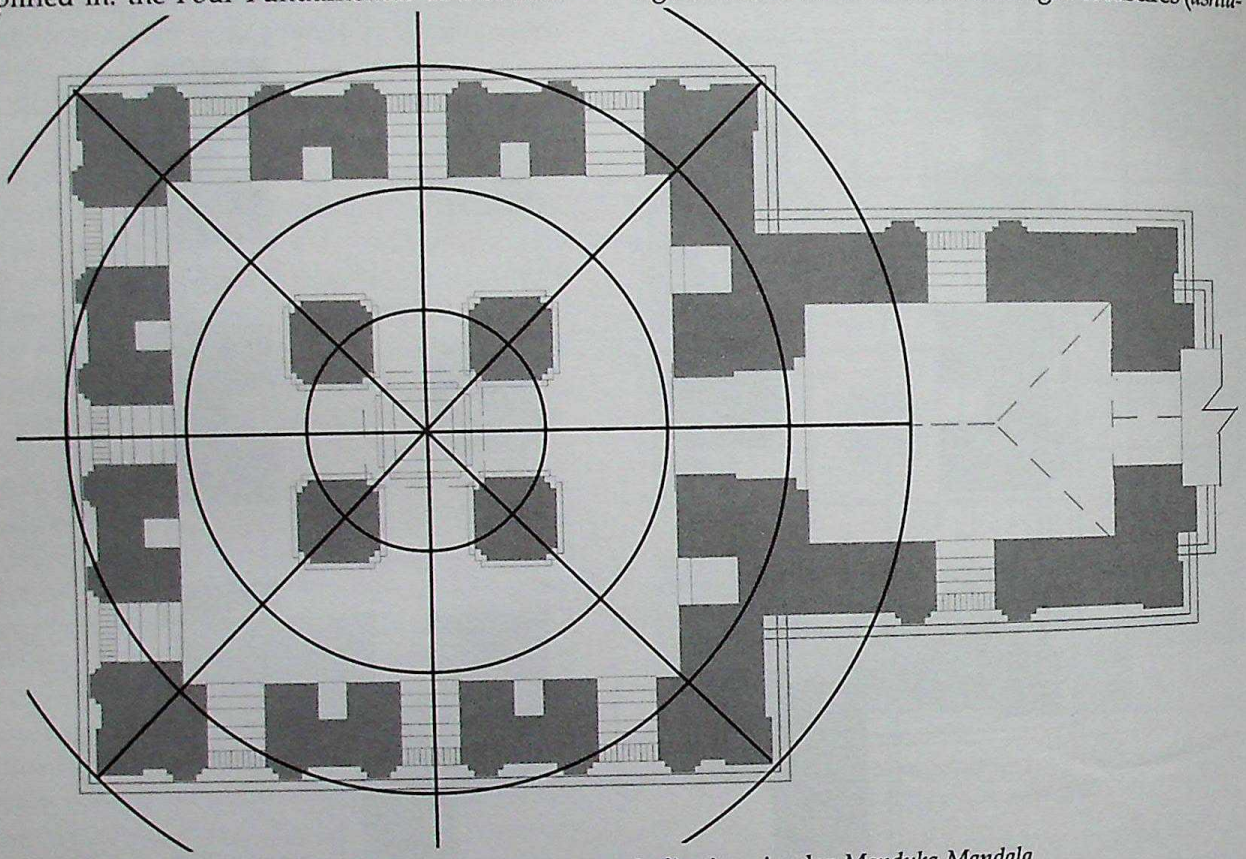


Figure 126: *Nan-Hpaya*, sanctuary indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas;* the *Nava-Durgas;* the *nava-Mudras; nava-nadis;* the Nine Classes of *Yoginis;* the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada;* the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*).

Finally, there are four images of the Lord Brahmá, one each on the four piers facing the primary image. These images do not underline a Brahmanic concern, rather the preeminence of Buddhism over the Hindu deity--a coexistence in which the two passive, inclusive faiths accept the tenets of each other.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Myin-Pya-Gu

Pagan, c. 1077-1084 CE

(PS)

The *Myin-Pya-Gu*, a monument of size and importance in Pagan, was started by Anoratha and finished by his son Saw La (r. 1077-1084). Its four equal façades (*lei-myet-hna*) is described as a cosmic symbol[9] which, as an icon, finds its prototype in the earlier Pyu kingdom. This essentially cross-axial temple appears to be, in elevation, more *stupa*-like than other temples of Pagan. The massive central core supports a tall *stupa* which soars above the roof line. This formal development would seem to indicate the symbolic relationship between the *gu* temple and the *stupa*.[10]

The *stupa*, as has been noted, is generally an architectural form without functional, enclosed space(s), more akin to monumental sculpture than architecture. It represents, or is symbolic of the Lord *Buddha* in its earliest use as well as a cosmic icon. The *gu*, or sacred cave, with all its attendant iconography, is a space for devotion, *puja*. The form and function of the *Myin-Pya-Gu* merges these two into a single structure. The mass of the *stupa* has conceptually been hollowed out forming a sacred cave, *gu*, thereby combining the cosmic symbol of the *stupa* with the holy womb, the secret place, a cosmological center.

The *Myin-Pya-Gu* consists of a square masonry block with portals set into each face. The east, north and south faces possess twin, side-by-side doorways each, while the western facade has but a single doorway. Flanking these portals are openings, piercing the thick masonry walls and illuminating the ambulatory. On either side of these openings are six indentations, niche-like--twelve on each face and forty-eight in all. The four faces of the façade correspond with the four inner shrines at the cardinal points of the compass forming a rudimentary Greek cross which later developed into a plan utilized in the *Ananda Temple*. The west portal extends further than the other three, making it, *en plan*, more prominent. Within the four portals there are vestibule halls, which, in turn, lead to a rather wide *pradakshinapatha*. However, the vestibule hall of the west portal, unlike the other three, is smaller and divided into two areas. Set within the inner walls of the *pradakshinapatha* are fourteen niches on each face--seven each on either side of the passageway entrance, totalling fifty-six in all. From the relatively dark *pradakshinapatha* encircling a mass of brick one enters any one of the four narrow entrances to the passageways which lead to the four inner shrines, truly cave-like. Within these four shrines are images of the seated Lord *Buddha* in *bhumisparsha mudra*. These inner images set within the central core are dimly lit from above by narrow, ducts-like apertures angled down from the *stupa's* base. These four shrines, like the outer portals are oriented to the cardinal points of the compass.

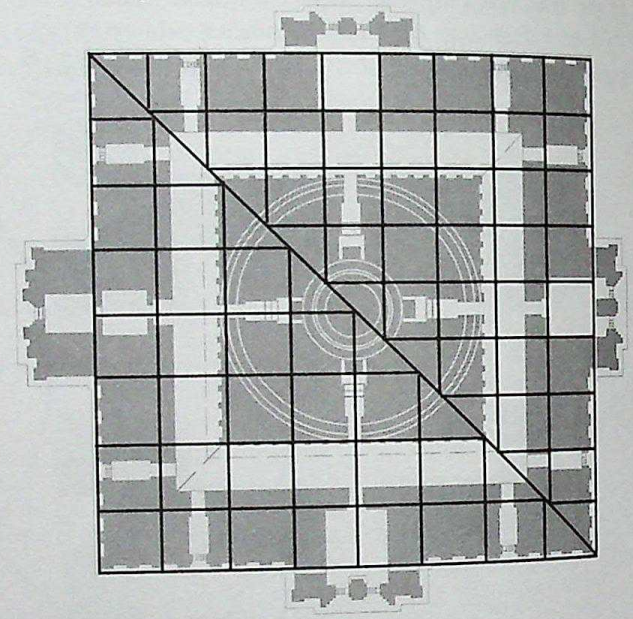


Figure 127: *Myin-Pya-Gu*, indicating sixty-four and eighty-one *pada* grid

Of further interest is the orientation of this temple--i.e., west to east, rather than the more traditional east to west. This would appear to indicate a masculine orientation--i.e., towards the east. West is also the direction of the nether world.

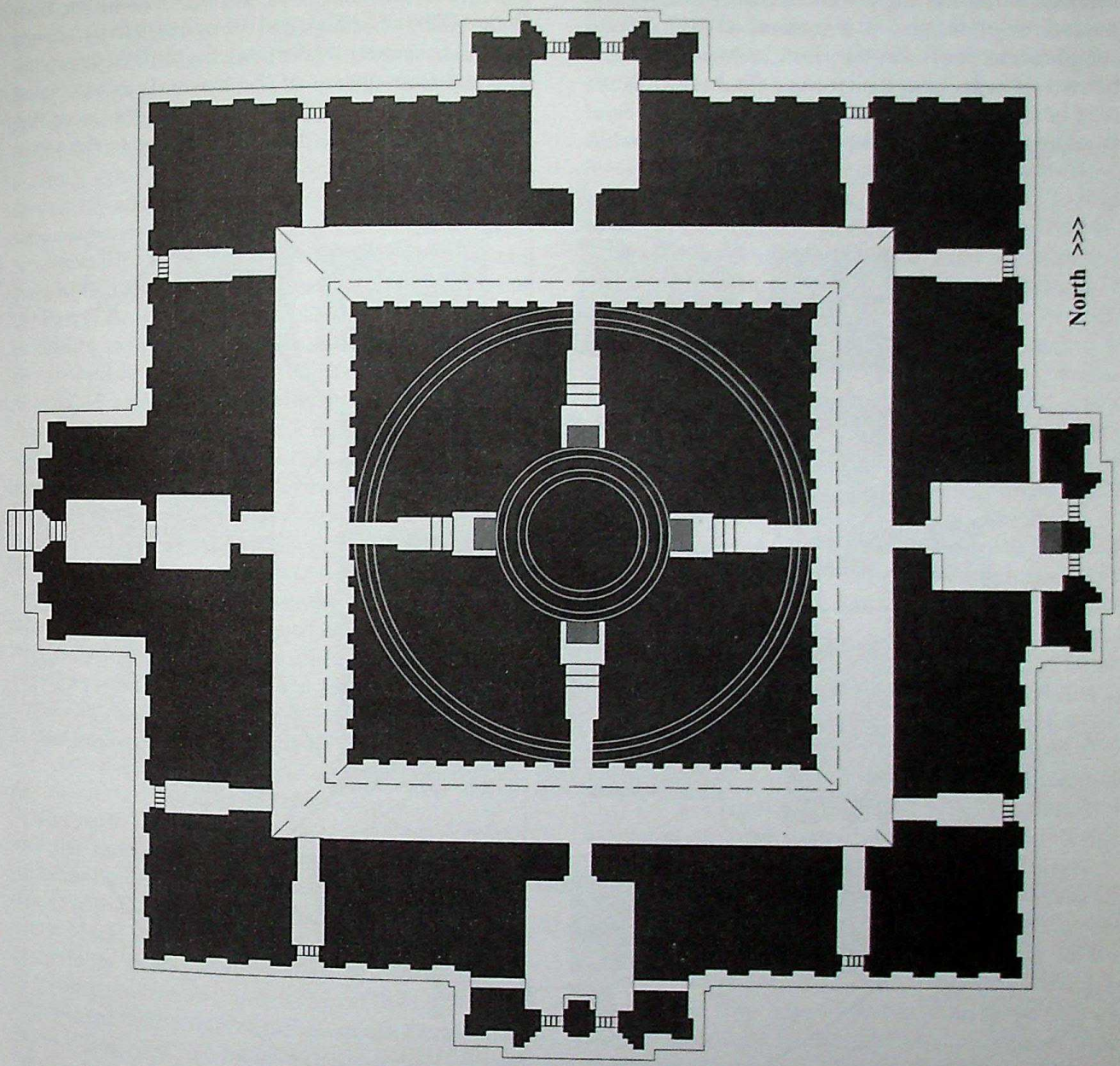
In applying a *mandala* to the *Myin-Pya-Gu*, three possibilities exist. Either a *Manduka Mandala* or a *Paramashayika Mandala* are applicable (See: **Figure 127**). In both cases the images within the four chapels are enclosed within the *Brahmásthana*. However, the *mandala* of sixty-four *pada* appears to present fewer problems. Similarly, a circular *Manduka Mandala* protects the inner shrines within its *Brahmásthana* (See: **Figure 128**). The second circle enfolds the inner masonry block, while the next circle encloses the *pradakshinapatha* and the vestibule halls of all but the western facade's halls.

There are five numerals which appear to warrant consideration: four, seven, eight, twelve, and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 54 -- *Myin-Pya-Gu*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

fourteen. Four, referring to the four main entrances and the four inner shrines, is a numeral which connotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Seven, referring to the seven doorways and the double seven niches of the *pradakshinapatha*, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the

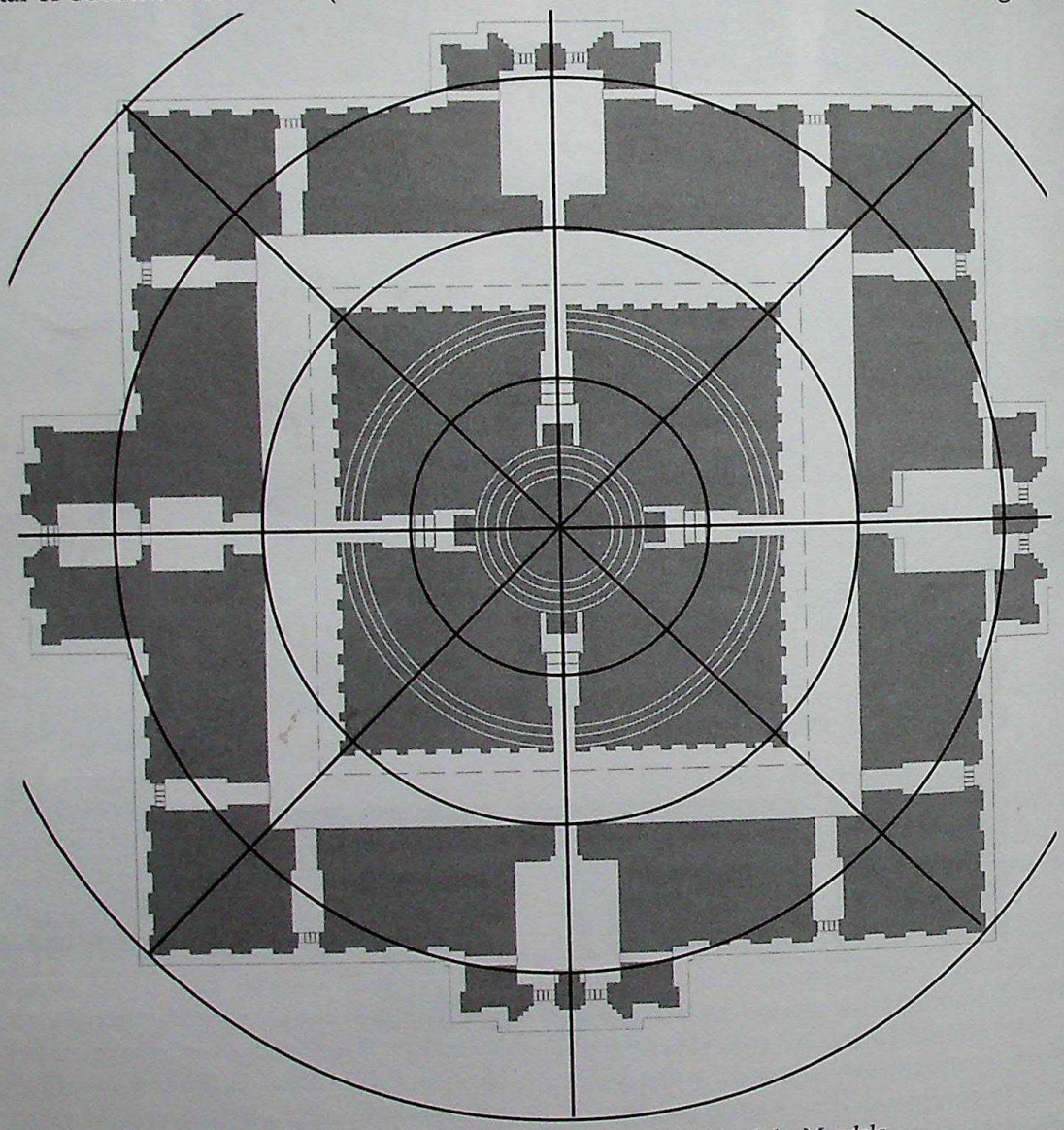


Figure 128: *Myin-Pya-Gu*, indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Eight, referring to the eight openings flanking the portals, denotes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Twelve, referring to the niche-like forms on each face of the outer block, connotes sacrifice and is related to immortality. This numeral is: a cosmic number as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. On each of the inner walls of the *pradakshinapatha*[11] are fourteen niches with images of the Lord *Buddha* in the *bhumisparsha mudra* in each. Fourteen is a number of luck, and is associated with the full moon as well as being associated with: the Sun, Rahu and Mercury. If the temple is bisected in any direction, the halves would contain twenty-eight niches. The number twenty-eight is a number that is associated with the moon's cycle (twenty-eight days), a perfect number arrived at by the addition of its divisors, and a number which represents the Planes of Existence (Pali: *Bhumi*). It is further auspicious as it is a combination of the Moon and Saturn, and the Sun. The combined total of the niches, fifty-six, is a cosmic number relater to the moon being made up of twice twenty-eight. As a compound number it is related to Mercury (*Budha*), Venus (*Shukra*), and again the Moon (*Chandra* or *Soma*). These interior niches are mirrored in the recesses of the outer walls--six blind recesses plus on fenestrations. Where the inner niches are separated by the opening into the inner shrines, the exterior recesses are separated by the four porches.

The *Myin-Pya-Gu* is a structure not only of religio-cosmic significance, but also of considerable architectural and structural interest as one of the elemental *stupa*-temples as well as one with an unusual orientation. The *Myin-Pya-Gu* stands out as an important temple of the early Pagan period as it presages the larger, more elaborate temples yet to come--i.e., the *Ananda*, *That-Byin-Nyu* and *Dhamma-Yan-Gyi*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Shwe-Zigon Pagoda

Pagan, a. 1084 & b. 1103 CE

(PS)

Shwe-Zigon Pagoda, although not the first, but certainly, it is one of the most renown of the Pagan *zeidi*. The *Shwe-Zigon* has frequently been referred to as the quintessential *zeidi* of the Burman.[12] Its massive structure rises above the surrounding plain to the northeast of the old city on the banks of the Irrawaddy as a viable and prospering monument. Even today it stands tall and majestic midst the ruins of lesser temples and *zeidi*. The *Shwe-Zigon* was begun during the latter part of the reign of King Kyanzittha and finished during the tenure of King Alangsithu. Its construction comes at a time when the *Theravada* began to become preeminent over what was considered the heterodox *Mahayana* and *Tantric Buddhism* that had gained a foothold in Pagan. Like many similar monuments of the area it has suffered the ravages of earthquakes, time and the climate. Yet, it is one of the most frequently visited monuments by the devout in the region.

It is rather typical of the *stupa* forms of both Pagan, the earlier Pyu Kingdom, and relates to the *Shwe-Hsan-Daw* and the *Mingala-zeidi*. The form and size typicality resides in Pagan's predilection for the massive, bell-shaped *anda* placed upon high, receding terraces with staircases on the median points. The emphasis is upon height, massiveness and overawing grandeur, not unlike the *Mingala-zeidi* of King Narathihapati's reign (See: **Plate 64**).

Its plan indicates a low terrace from which rises three additional terraces in a pyramidal form. The plan of the terraces is neither *triratha or pancharatha* in form, but is composed of four extensions creating nine rathas (*nava-ratha*?). Upon the fourth terrace rests an octagonal plinth which supports the *anda*. In this *stupa*, the *anda* is massive in width and height, bell-like in elevation, with straight rather than curvilinear sides. The transition between the *anda* and the *chattravali* is abrupt--a *harmika* is not present. The *chattravali*, as the whole, is massive rather than slender as is to be seen in other *stupa* and *shikhara* of Pagan. It ascends in ever decreasing rings to a lotus bud finial (*amalaka*). The impression of he whole is formidable, solid and has been likened to a "bastion."[13] Indeed it represents a bulwark, a rampart of *Theravada Buddhism*. Four, *makara*-guarded staircases ascend to the third terrace at the median points, punctuated with a *torana* at the level of the first terrace. At the cardinal points are *gandhakuti*, each with an image of the Lord *Buddha* (See: **Figure 129**). These four structures face outward and in form represent small *gu*-like structures with *shikhara* more slender than the main *stupa*.

On the low base-plinth, at the corners are four, double-bodied, guardian lions. The lion has long been associated with the Lord *Buddha* who is often shown

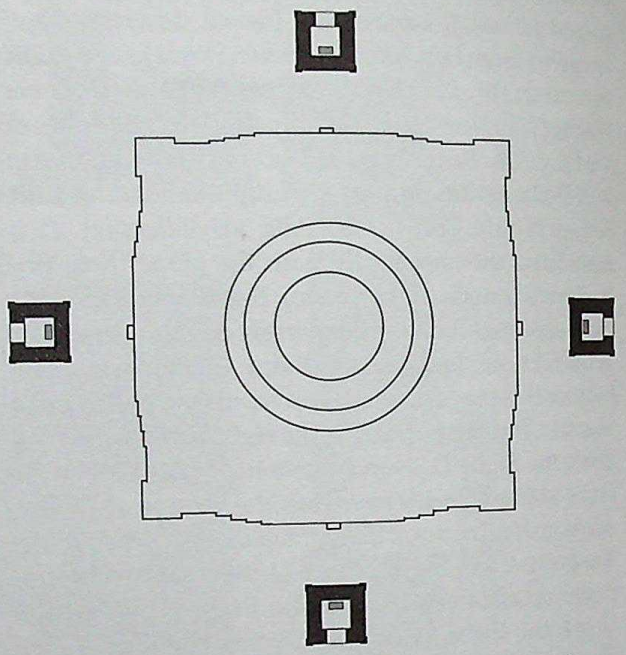


Figure 129: *Shwe-Zigon*, layout with *gandhakuti*

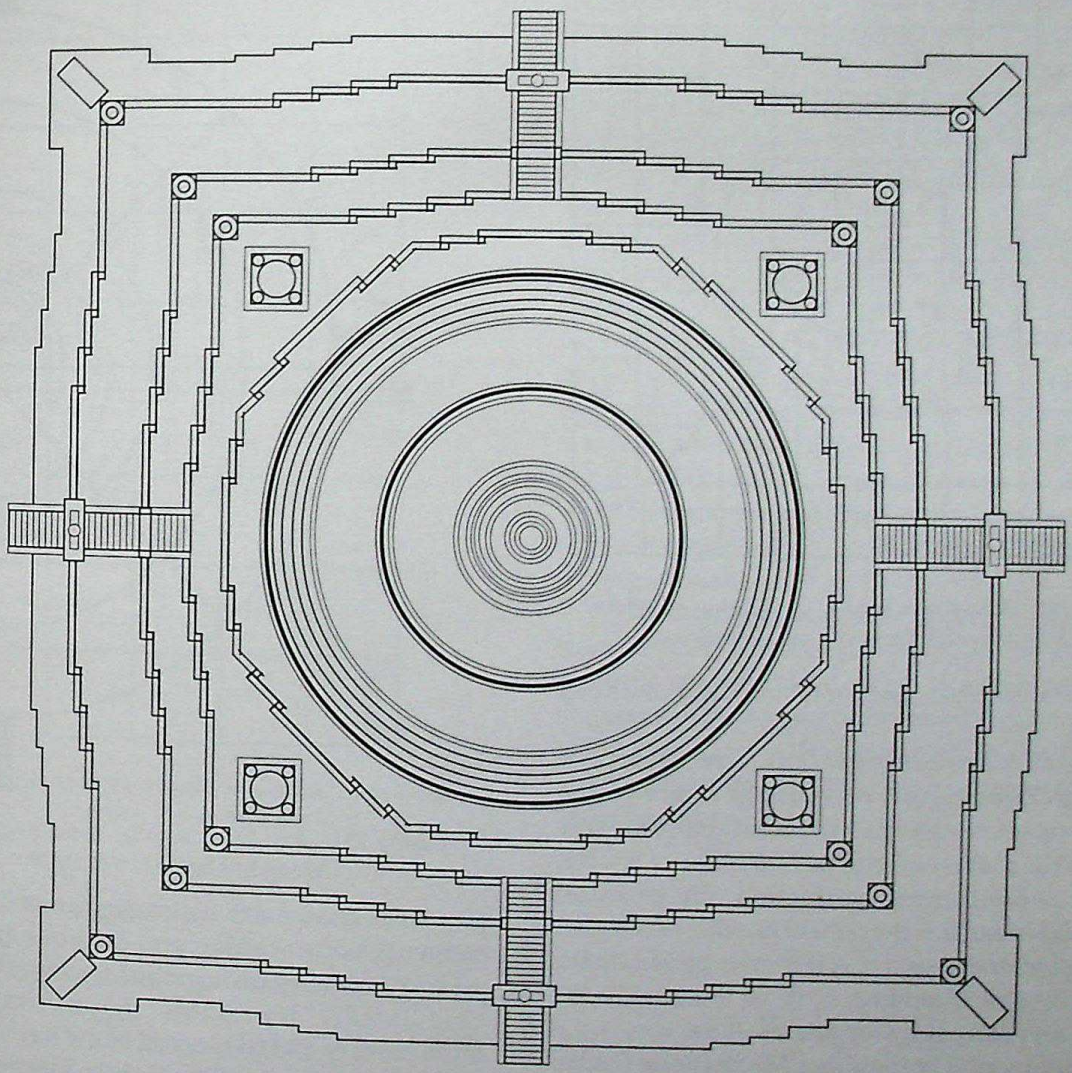
seated upon as lion throne (*simhasana*). At the corners of the three terraces (levels two, three and four) are *stupa*-like ornaments which are described as *kalasha* with *stupa* finials. On the third terrace are smaller versions of the main *stupa*, set in from the corners.

The application of a *mandala* offers several options. First, if either a *Manduka Mandala* or a *Paramashayika Mandala* are placed over the *zeidi* proper, it is seen that the *anda* falls within the *Brahmásthana* of both *mandala* and the circular base is contained within the realm of the secondary deities (See: **Figure 130**). The four subsidiary, smaller stupas also fall within the realm of the secondary deities of the *Paramashayika Mandala* but not of the *Manduka Mandala*. If, then, a circular *Manduka Mandala* is impressed over the same form, additional salutary situations are observed (See: **Figure 131**). The *anda* is contained within the inner circle. The octagonal plinth is bordered by the second ring. The third circle contains the four small stupas as well as the cardinal stairways. Finally, the outer ring

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 55 -- *Shwe-Zigon Pagoda*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

contains the whole, but also touches the four *gandhakuti*. An *Asana Mandala* of one-hundred *pada* appears to be a *mandala* that could have been applied to the stupa-*gandhakuti* ensemble (See: **Figure 132**). Here, the *anda* is within the *Brahmásthana*, while the upper terrace with its four small stupa is guarded within the

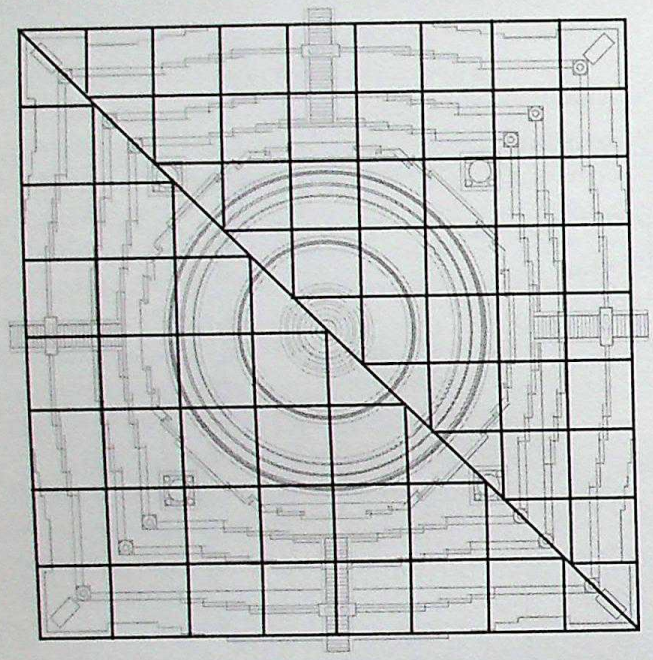


Figure 130: *Shwe-Zigon Pagoda,* indicating *Manduka Mandala* amd *Paramashayika Mandala*

next row. The *gandhakuti* are contained within the outer ranks.

Numbers also are seen to be of some importance in the *Shwe-Zigon Pagoda*, particularly: four, five and twelve. Four, referring to the guardian lions of the base as well as the four small stupas of the upper terrace, connotes completeness, perfection, the practical element and order. It is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); and the four streams of milk from the heavenly udder creating the four sacred rivers. Additionally, it is represented by the *Muladhara Chakra*. The same is to be inferred with regard to the four miniature *stupas* of the fourth level. Five, referring to the five levels upon which the stupa rests as well as the main *stupa* and the four diminutive stupa forms, symbolizes magical

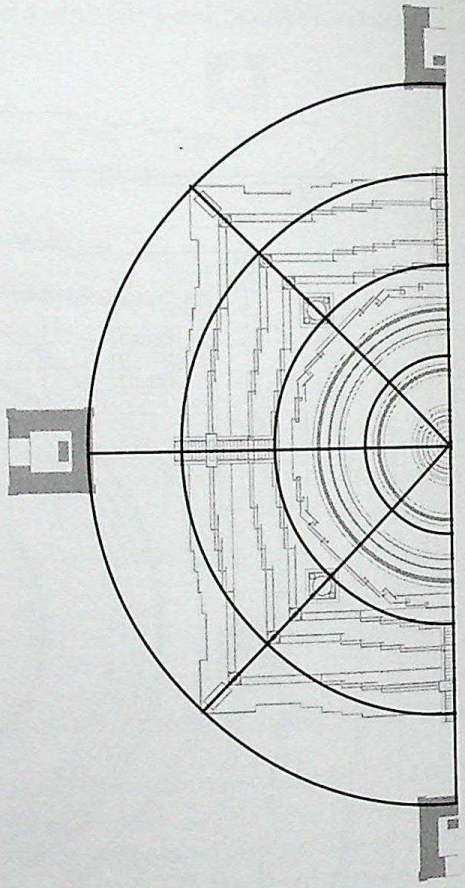


Figure 131: *Shwe-Zigon Pagoda,* indicating circular *Manduka Mandala* over stupa

properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: Ye-*shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Twelve, referring to the corner *kalasha-stupas*, denotes sacrifice and is related to immortality. This numeral is: a cosmic number $12 \times 30 = 360^0$ as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*.

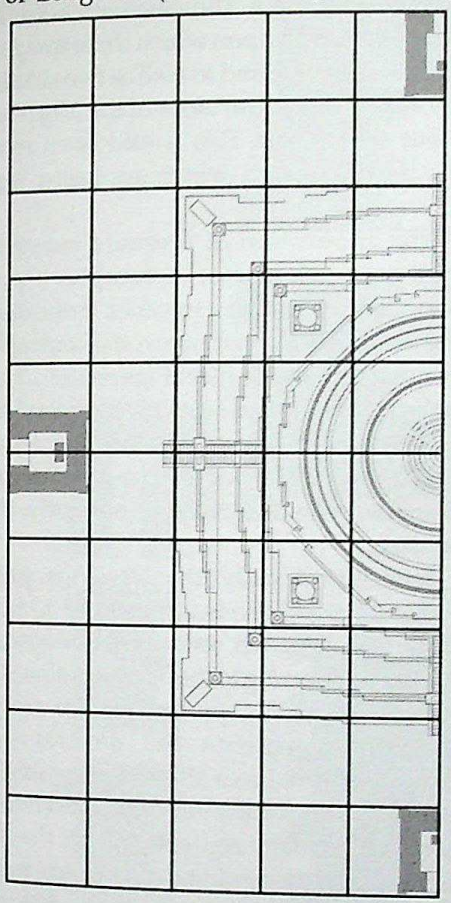


Figure 132: *Shwe-Zigon Pagoda*, stupa with *gandhakuti* indicating *Asana Mandala*

This massive, immense structure indeed would have instilled incomparable awe in the eyes of the devout, particularly with its white-washed, polychromed and gilded exterior. Without its coloration today, *Shwe-Zigon* still is monumentally impressive and one can understand its status as the quintessential *zeidi* of the Burman.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Naga-Yon

Pagan, c. 1090 CE

(PS)

As with the *Myin-Pya-Gu* the *Naga-Yon* is, in scale, a massive structure, the epitome of the *gu*-style temple. It constructed during the reign of King Kyanzittha (1084-1113) and based on a dream he had as a young man of a protecting snake--hence, the name "protected by a snake."[14] Its low, horizontality is punctuated by a *shikhara* of fine proportion. Built at a time when *Theravada* was influenced by the orthodoxy of Sri Lanka, it reestablishes the primacy of that doctrine in concrete form. The axial *Naga-Yon* continues the line of merit yielding temples that had become the norm for Pagan kings since Aniruddha's *Myin-Pya-Gu*.

There are, however, a number of ways in which this temple deviates from the norm. The *Naga-Yon* is oriented not to the east but to the north, towards the royal palace. It does not follow the *lei-myet-hna* plan which had been introduced in the *Myin-Pya-Gu*, but appears to follow the more longitudinal plan of the older *Nan-Hpaya* and also hearkens to the overall plan or shape of Sri Lankan temples--i.e., a massive block with a narrower extension of some dimension. In addition, the cross-axiality of the main block is done away with--the main block is not square, rather it is rectangular. The length of the north-south axis is somewhat longer than that of the east-west.

En plan, the *Nan-Hpaya* is a close model for the *Naga-Yon*--the latter being made of an entrance hall or vestibule which leads to the cella, a *pradakshinapatha* and the internal, *gu*-like, sanctuary block. The vestibule-hall is fenestrated and incorporates ten niches which held guardian figures appropriate to the reinvigorated faith.

The anteroom leads to an inner ambulatory, a *pradakshinapatha* contained within the main block. In the outer wall of this *pradakshinapatha* are thirty-two niches, eight on each wall. There are five openings, equally spaced on the east, west and south walls of the ambulatory. Additionally, there are two on the north as well. The inner wall, the wall of the *garbha-griha*, holds twenty-eight smaller niches--eight each on the south, east and west walls and four on the north--and one larger niche in the south wall (flanked by eight of the smaller) corresponding to the sanctuary entrances of the east, west and north walls. Within the northwest and northeast corners of the outer wall are narrow staircases which lead to the upper terrace and the slender *shikhara*.

The sanctuary has a relatively wide entrance oriented to the north, and in the east and west walls are narrow openings which would allow additional light into the inner space. The sanctuary holds an altar against the south wall upon which three images of the Lord *Buddha* are to be found as well as two small niches. As noted above the central block of the *Naga-Yon* is not square, but rectangular. This would seem to deviate from the Indian models which are based upon the square.

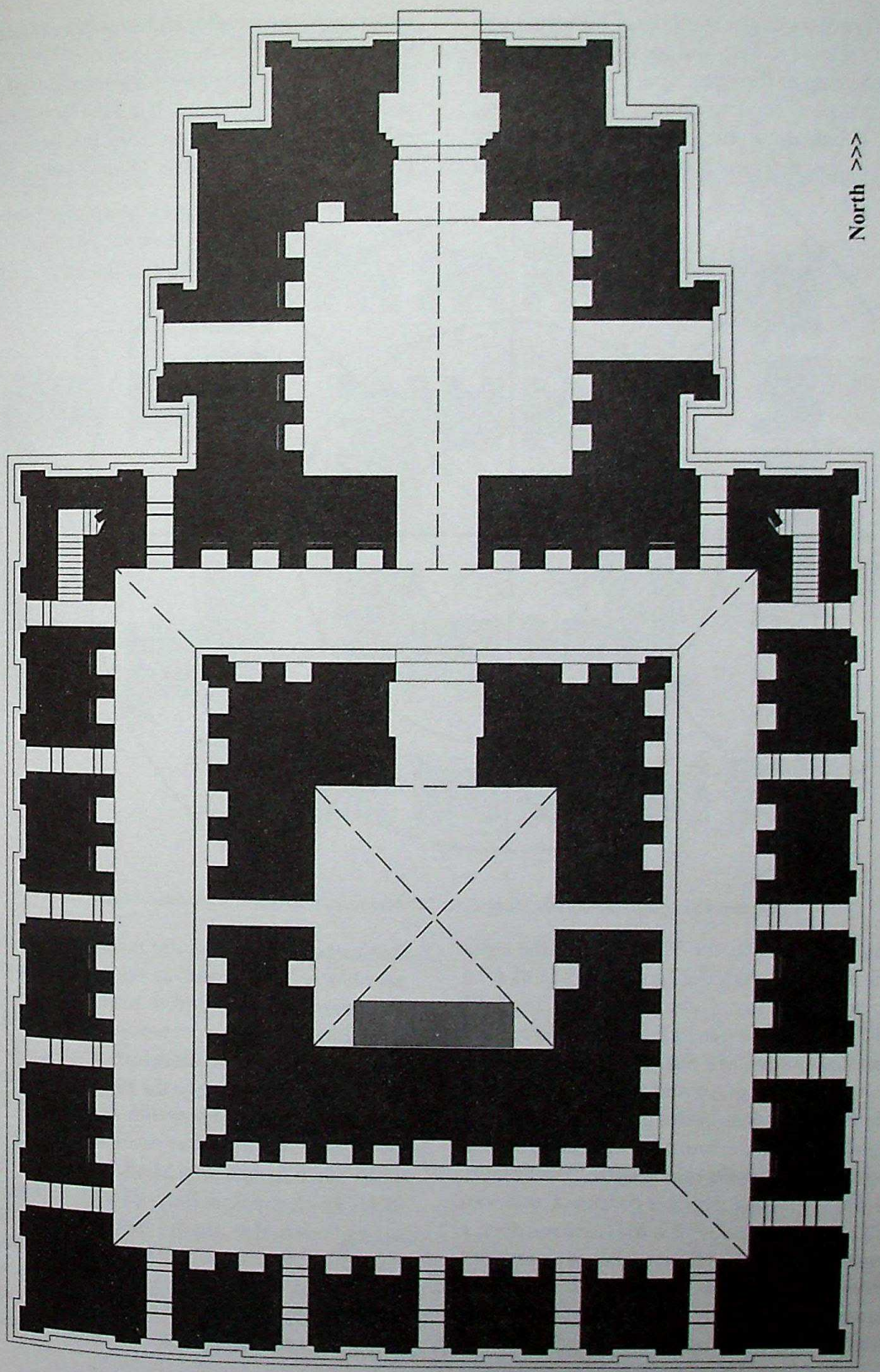
The application of a square *mandala* to an essentially rectangular temple presents insurmountable problems. However, if one impresses a circular *Manduka Mandala* upon the central block it appears quite applicable (See: **Figure 133**). The outer circle embraces the central block as the second encloses the *pradakshinapatha*. The third circle virtually holds the total of the central block (*garbha-griha*) as the inner circle does the cella and more importantly, the altar with its images.

Iconographically, the *Naga-Yon* possesses numerous numerical levels appropriate to its scale--specifically: five, eight, ten, seventeen, twenty-eight and thirty-two. Five, referring to the openings along the east, west and south walls, symbolizes the magical, is against evil, represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. Five is exemplified in: the planet Mercury (*Budha*), the Five Buddhas (Indic: *Pancha-Buddha*); The Five Truths (Indic: *Pancha-Tattva*); the five senses; the Five Forces (Indic: *Pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Mystics (Indic: *Pancha-Tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Protectresses (Indic: *Pancharaksha*, Tib.: *bSrung-ma lNga*); and the Five-Headed Hanuman (Indic: *Panchamukha Hanuman*). Eight, referring to the niches set in the outer wall of the *pradakshinapatha*, symbolizes perfection, good fortune, and is auspicious in its makeup. It is exemplified in: the planet Saturn (*Shani*), *Manduka-mandala*; the Eight *Mahabodhisattvas*; the Eight Great *Stupas* (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 56 -- *Naga-Yon*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

shis rTags-brGyad); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. Ten, referring to the guardians in the vestibule-hall, represents perfection or completeness, success, and cosmic wisdom. It further represents unity emerging from multiplicity. It is the first compound number. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *Dashavataras*); the Ten Powers of *Buddha* (Indic: *Dashabhala*; Tib.: *sTobs-bCu*); the Tenfold Knowledge (Indic: *Dasha-nanam*); the Ten Directions (Tib.: *Phyogs-bCu*) which are the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; ten fingers and ten toes, depicted as: Additionally, it is represented by the *Manipuraka Chakra*. Seventeen, referring to the windows, denotes conquest, wisdom and immortality. This number is a mystical number, a symbol for speech, as well as the number of assent and one which represents struggle. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces eight and, therefore, the planet Saturn (*Shani*). Twenty-eight, referring to the smaller niches within the outer wall of the sanctuary, is an auspicious number, this numeral represents a number that is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*, *kamasugati-bhumi* and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*). Thirty-two, referring to the niches set within the outer wall of the *pradakshinapatha*, is a numeral considered by some to be a perfect number. It is exemplified in: Thirty-two Auspicious Marks of the Great Being (Tib.: *sKyes-bu-chen-pohi mTshan gSum-Cu-rTsa-gNyis*) which along with the eighty secondary signs are the recognizable signs of an Enlightened one; the thirty-two points of the compass--e.g., south, south southeast, southeast south-southeast, etc.--and the thirty two characteristics of human physiology. As a

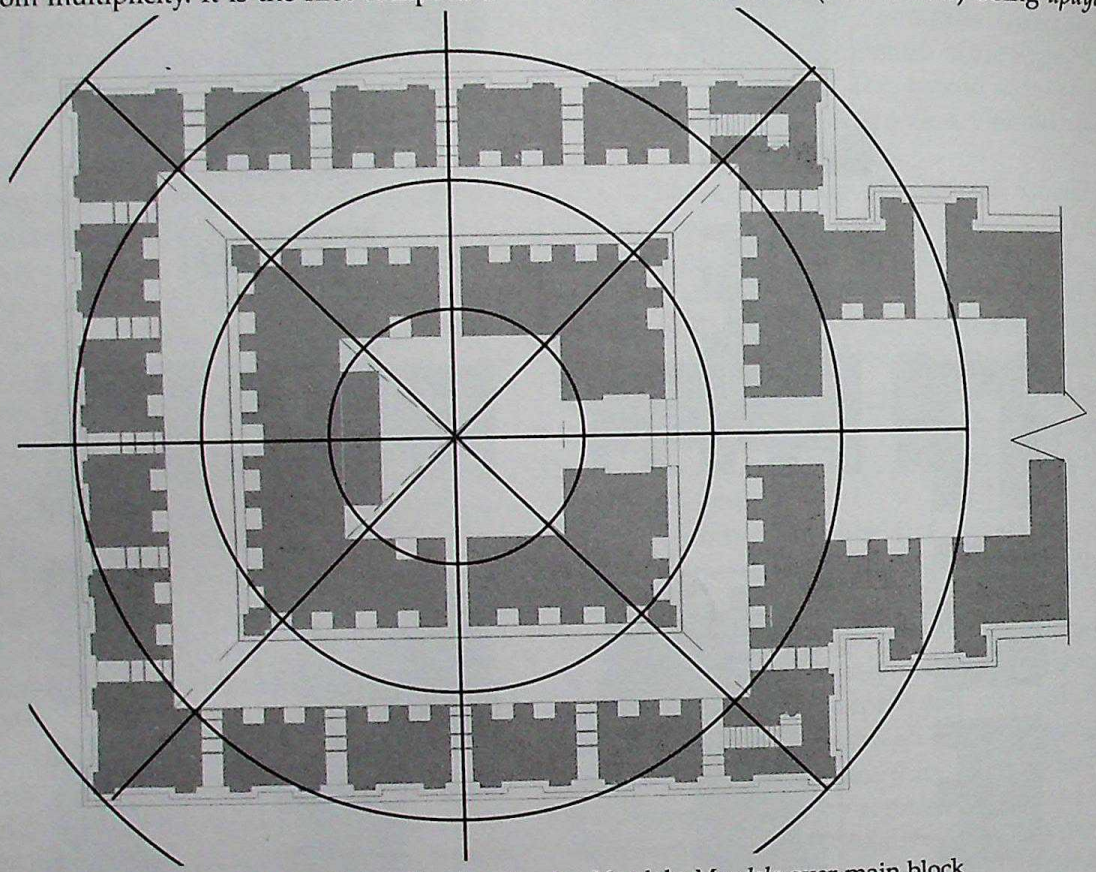


Figure 133: *Naga-Yon*, indicating circular *Manduka Mandala* over main block

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

compound number it is associated with the planet Jupiter (*Brihaspati* or *Guru*) and the Moon (*Soma* or *Chandra*). When reduced it produces five and, therefore, the planet Mercury (*Budha*).

Certainly, the *Naga-Yon* was and is a viable example of the preeminence of *Theravada Buddhism* over the heterodox elements that had been seen to invade the Burman faith. Even though it appears to violate some of the standard precepts that had been established and utilized over the centuries, it does so with a certain amount of panache. The royal architect/builders based the overall design on the past, but adapted it to their local needs without prostituting the established parameters. The solidity of the *Naga-Yon* stands in mute judgment of what went before and what is to come without apology or, for that matter, compromise.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ananda Temple

Pagan, a. 1105 CE[15]

(PS)

Of all the temples and *stupa* of Pagan, none assumes more architectural or visual importance and prominence than the *Ananda*. By sheer size, design, location and preservation it has become an exemplar for those builders who came after its construction. It is the first great temple of the middle period and the last constructed during the reign of King Kyanzittha (1084-1113). Resting to the east of the eastern gate of the old city, its scale is indeed impressive. The *Ananda* is considered to be the epitome of the *Mon* style in Pagan.[16]

En plan, the *Ananda* is representative of *lei-myet-hna* and related to the *Myin-Pya-Gu*. The cross-axial plan in the form of a Greek cross that the *Ananda* presents--particularly with the double *pradakshinapatha*--has assumed a design exemplar that seems to have been an indigenous Pagan concept. The elevation reveals the standard decreasing terrace-roofs--three in all--over the cella, capped by a slender *shikhara/stupa* which is placed upon a three-tiered base. These receding terraces and roofs create a forced perspective that has been employed in such structures as *Borobudur* of Java, and *Ta Keo* of Angkor, etc. This adds to its majestic mien (See: **Appendix A, Plates 129 & 130**).

The plan presents four entry vestibules or halls which are essentially identical *en plan*, and each oriented to a cardinal point of the compass (See: **Figure 134**; see also: **Appendix A, Plate 131**). However, the main entrance is oriented towards the west, the direction of the kings residence, rather than the east.[17] The vestibules are rectangular and possess four massive supporting piers which create their own ambulatory around a central space. From here entrance is gained to the inner space via three doorways--the central main entrance and two flanking smaller portals. The only light allowed into these porches are from the three entrances and the two windows flanking the principle doorway. The entrance pavilions individually possesses four niches on each of their four inner walls, totaling sixteen. Within these niches were placed guardian figures (*Lokapalas*) and other attendant *parivara* associated with the Lord *Buddha*. These areas with their images become transitions and sentinels to the inner reaches of the temple. In this transition four more niches are encountered that appear to be associated with the vestibule--they are to be found in the halls of the two flanking passageways leading to the *pradakshinapatha* #1. In all, there are twenty niches within the vestibule and its passageways.

After passing through any one of the entry vestibules, one comes to the first or outer *pradakshinapatha* #1 (See: **Figure 135**). Here there are

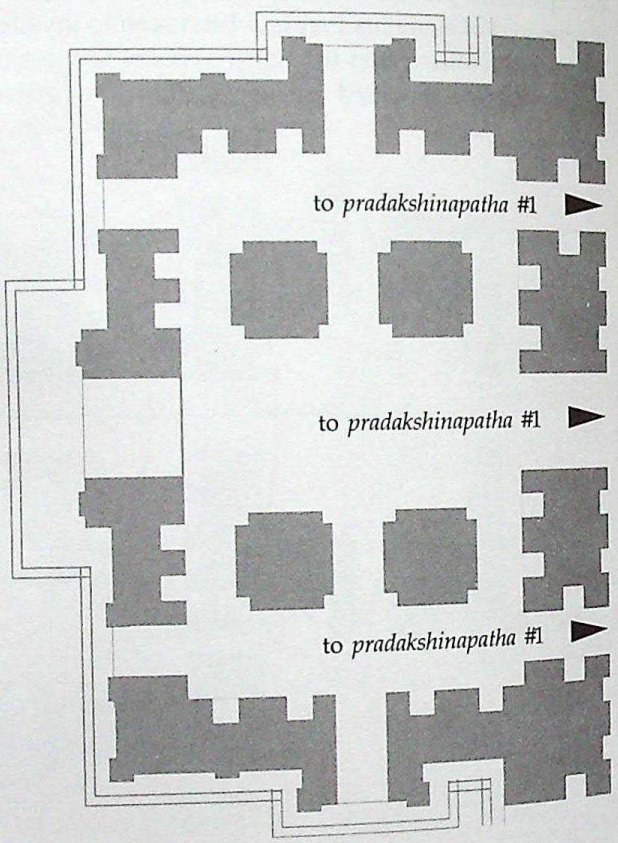


Figure 134: *Ananda*, vestibule hall detail

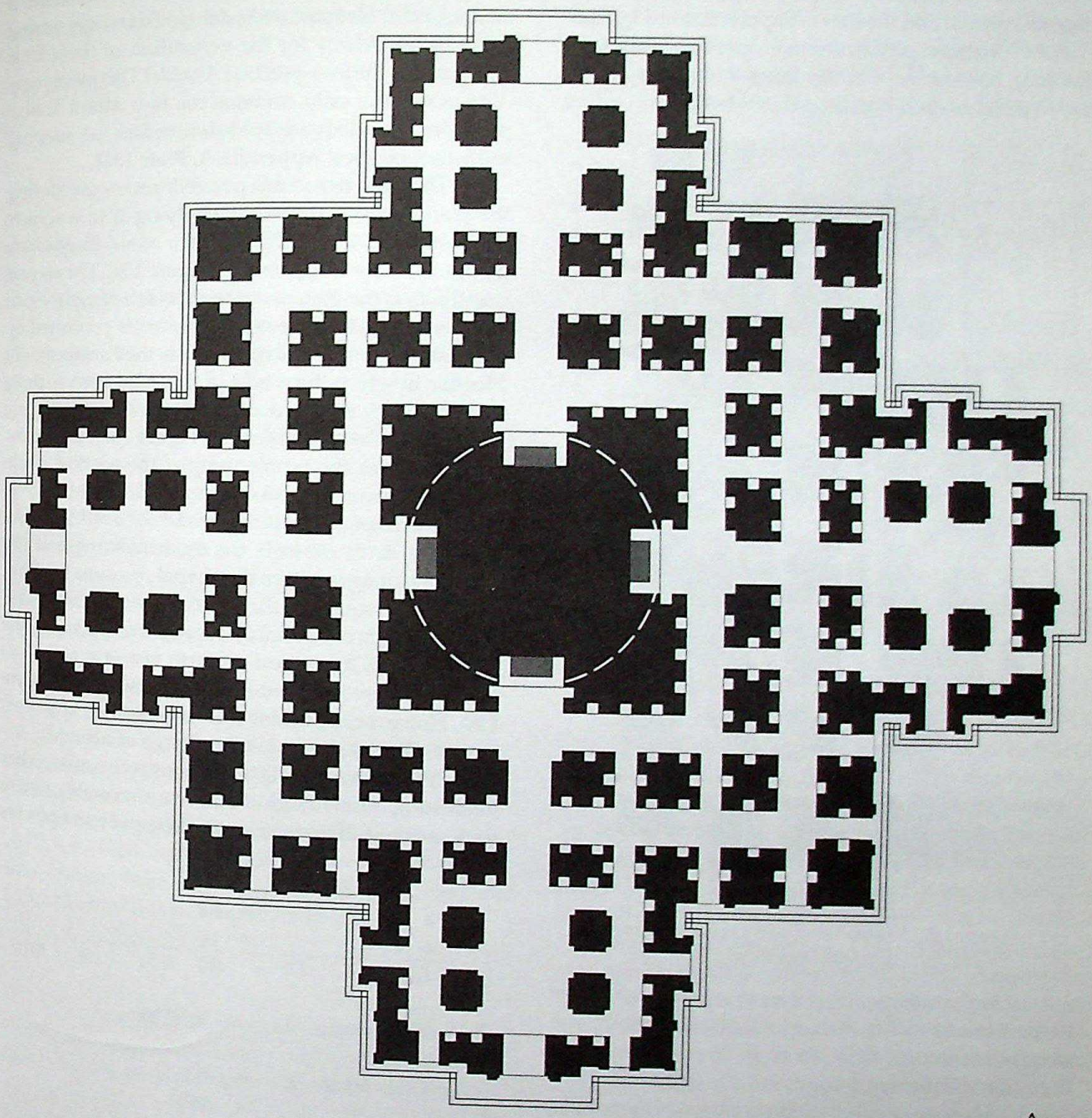
eighty niches set forty over forty in the outer wall of the first ambulatory. These recesses contain scenes from the life of the Lord *Buddha*. The panels not only posses cosmic significance but they are also didactic and aid the devotee in their *pradakshina*. On each face of the inner wall of the *pradakshinapatha* #1 there are ten niches--amounting to forty. The total niches found in the outer ambulatory amount to one-hundred-twenty. In addition, there are sixteen windows illuminating the outer ambulatory, four in each face. On either side of the deep insets of the windows are two niches each, totalling thirty-two.

From the outer *pradakshinapatha*, #1 one passes through any one of a number of points of ingress to the inner *pradakshinapatha* #2 (See: **Figure 135**)--each

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 57 -- *Ananda* Temple



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of the four faces have five points of entry each--twenty in all. The main or central entry which is in line with the main portal and the inner chapel is flanked by four narrower entrances, two on either side. Within the four flanking passageways to the inner ambulatory there are two niches each--totalling thirty-two.

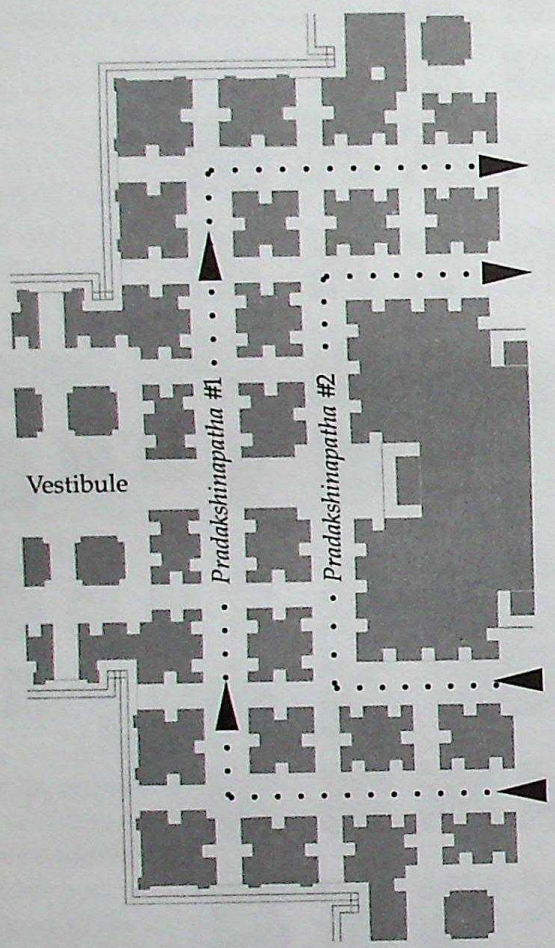


Figure 135: *Ananda,* west half plan indicating *pradakshinapathas*

On the outer walls of the inner *pradakshinapatha* #2 there are six niches each, a total of twenty-four. The same holds true for the inner wall. The total niches for the inner ambulatory amount to forty-eight.

At last, one reaches the inner core(s) of the temple. Four sanctuaries are set within the central block of the temple, the sacred cave, and oriented to the cardinal points of the compass. Within these sanctuaries rests dimly illuminated images of the four *Manushi Buddhas*--i.e., 1) *Kakusandha Buddha* (aka *Krakucchanda Buddha*) in the *dharmachakra mudra*, 2) *Konagamanda Buddha* (aka *Kanakamuni Buddha*) in the *varada mudra*, 3) *Kassapa Buddha* (aka *Kashyapa Buddha*) in the *dharmachakra mudra*, and 4) *Shakyamuni Buddha* in the *abhaya mudra*. What better vehicle for the veneration of these four *Buddhas* than the four-porched *Ananda*? This inner mass of masonry not only contains the four altars, it also provides an adequate foundation for the soaring *shikhara/stupa* (See: **Appendix A, Plate 131**).

There are two viable possibilities in considering the plan of the *Ananda* and applying it to a square *mandala*. First, the application of a *Manduka Mandala* made up of sixty-four *pada* (See: **Figure 136**). The second possibility is the *Paramashayika Mandala* of eighty-one *pada*. In both cases the soaring *shikhara* is protected by the *Brahmásthana*. However, it is only the *Paramashayika Mandala* in which the whole of the inner core with its four chapels is enclosed within the *Brahmásthana*. If a circular *Manduka Mandala* (See: **Figure 137**). The outer circle encloses the whole temple; the second circle encircles the outer *pradakshinapatha* #1; the third circle holds the inner ambulatory, *pradakshinapatha* #2, and the inner circle protects the *shikhara/stupa* and the enshrined images within the chapel recesses. In either case--i.e., the square or the circular *Manduka Mandala*--the *Ananda* fits comfortably. Finally, the spacing of the "aisles" seems to suggest a fourth *mandala*, a *Deshiya Mandala* of one-hundred-forty-four pada (See: **Figure 138**). However applicable this *mandala* may appear, it is generally not utilized in the design of a temple.

When considering the various recesses or niches interesting numerological patterns inexorably rise to the fore--those of the four vestibule(s) and passageways (80):

4 x 16	=	64	
4 x 4	=	16	
Total		80	80

those of the *pradakshinapatha* #1 (120):

4 x 10 x 2	=	80	
or: 4 x 20	=	(80)	
plus 4 x 10	=	40	
Total		120	120

those of the windows (32):

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

4 x 8	= 32	32

those between *pradakshinapathas* #1 and #2 (32):

4 x 8	= 32	32

those of the *pradakshinapatha* #2

4 x 6	= 24	
4 x 6	= 24	
Total	48	48

Total niches of the above = 312

When the totals are reduced, again an interesting pattern develops:

80^{18} = 8 + 0	=	8
120 = 1 + 2	=	3
32 = 3 + 2	=	5
32 = 3 + 2	=	5
48 = 4 + 8 = 12 = 1 + 2	=	3
Total	=	24

a final reduction:

24 = 2 + 4	= 6

All of the totals are divisible by four--e.g., 80, 120, 32, and 48, as well as the total 312. The sum of the reduction is the feminine number six.

It is of some interest that the reduced integers--i.e., 3, 5, 6 and 8--are a combination of masculine and feminine numbers, and when added then reduced again, the sum is the common divisor four:

3 + 5 + 6 + 8 = 22 = 2 + 2 = 4.

To state that the reappearances of certain numbers is of no importance would not be accurate. Nor would it be accurate to say that the numerous integer repeats places a greater importance on numerology in the *Ananda* than in smaller temples. Numerals such as three, four, five, six, sixteen, twenty, twenty-four, thirty-two, forty, forty-eight, and eighty appear and must be considered. Three, referring to the reduced numeral, the three levels of the roof as well as the *shikhara's* three ringed base, signifies perfection, the trinity, the divine family (father, mother, child), and unity plus diversity which equals perfection. Three is considered to be the first masculine (odd) number and therefore has certain precedents. It is a sacred number and is exemplified in: the planet Jupiter (*Brihaspati* or

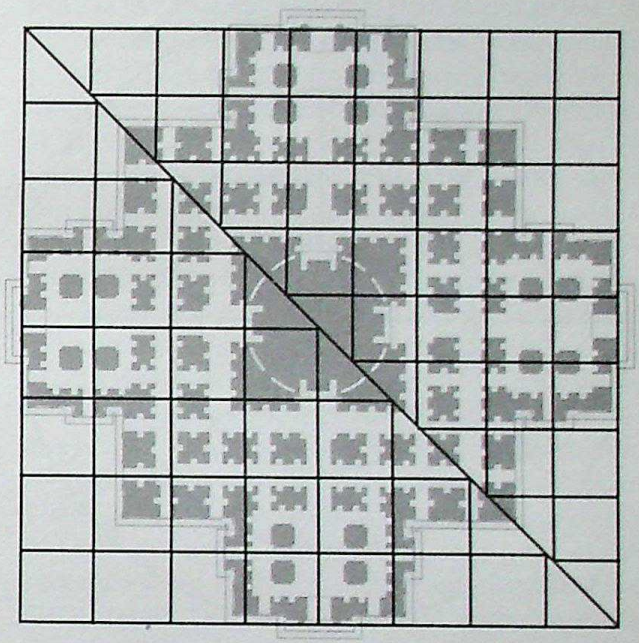


Figure 136: *Ananda,* indicating a sixty-four and eighty-one *pada* grid

Guru), the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); the trinity of *Brahmá, Vishnu, Shiva; trishula; Tripitaka* (Pali: *Tipitaka*); The Three Regions or the Three Worlds (Indic: *Triloka)* namely (Indic: *Arupadhatu, Rupadhatu, Kamadhatu*); the Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three *Bodhisattvas* of Wisdom, Power and Mercy; and the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*.

Four, referring to the four vestibules, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the

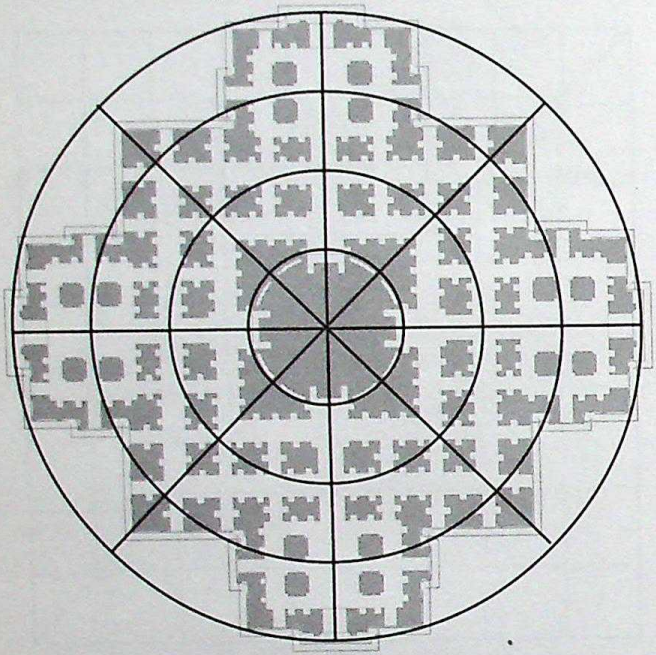


Figure 137: *Ananda*, indicating a circular *Manduka Mandala*

cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*.

Five, referring to the points of entry from the outer ambulatory to the inner ambulatory, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Failings or Weaknesses; the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*).

Six, referring to the niches on each face of the inner ambulatory, denotes the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. This integer is considered to be the most perfect number and the product of the first male and female numbers signifying universal attraction. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu*; the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*); the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra*.

Sixteen, referring to the niches within the entrance pavilions, represents divine destruction, the fall of man and the visible world. This integer also signifies completeness, or balance being made up of opposites--the Sun and Venus. It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*.

Twenty, referring to the niches within the vestibule and its passages, denotes, as double ten,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

perfection or completeness, success, and cosmic wisdom. This number is auspicious in its make up and represents renewal. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*.

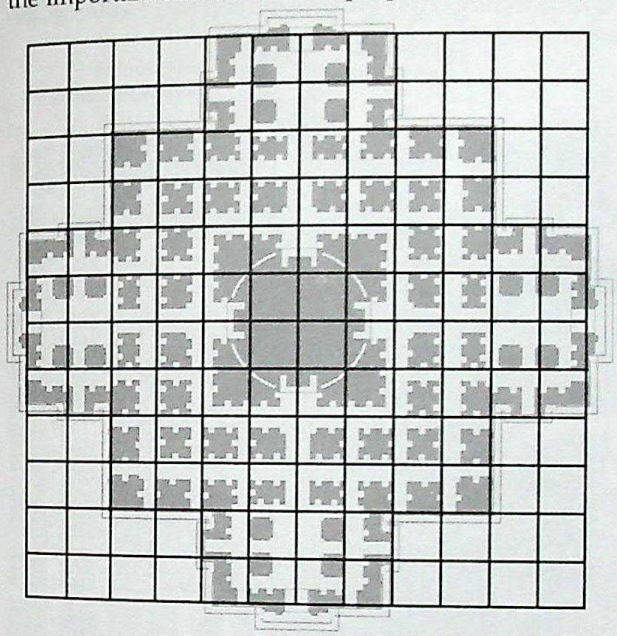


Figure 138: *Ananda,* indicating a *Deshiya Mandala*

As a compound number it is associated with the Moon (*Soma* or *Chandra*). It becomes additionally important in the composition of a *stupa* (See: **Plate 8**). Twenty-four denotes totality and the combination of two opposites--i.e., 2, represented by the Moon, and 4, which denotes *Rahu*. This integer represents a cosmic number, and is considered a lucky number. It is exemplified in the total of the double hours of day and night. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces six and, therefore, the planet Venus (*Shukra*). Thirty-two is exemplified in: Thirty-two Auspicious Marks of the Great Being (Tib.: *sKyes-bu-chen-pohi mTshan gSum-Cu-rTsa-gNyis*) which along with the eighty secondary signs are the recognizable signs of an Enlightened one; the thirty-two points of the compass--e.g., south, south south-southeast, southeast south-southeast, etc.--and the thirty two characteristics of human physiology. As a compound number it is related to Jupiter (*Brihaspati* or *Guru*), the Moon (*Soma* or *Chandra*), and to Mercury (*Budha*). Forty signifies perfection and completion. This numeral is related to the Pleiades disappearance. It is exemplified in: the story that the Lord *Buddha* sat for forty days under the pipal tree before Enlightenment; and the forty Mental Exercises (Pali: *kammatthana*). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon). Forty-eight assumes importance in its makeup as well. It denotes mystical completeness. Its association with the cosmic number twelve which comprehends all numbers lower than itself is auspicious. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) and the planet Saturn (*Shani*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). It is visually represented in the rare forty-eight-petaled lotus (*astachaturdasa-dala padma*). Finally, eighty is related to perfection and completeness. It is exemplified in the story of the Lord *Buddha* that in his eightieth year he died, completing his life on earth. Additionally, there are eighty secondary signs that are the recognizable in an Enlightened One. It is associated with the planet Saturn (*Shani*).

The *Ananda's* elevational proportions are quite different from the previous large temples and the ones to come. Whereas the proportion of the other large temples--e.g., *That-Byin-Nyu* and the *Gawdaw-Palin*--tend to fall within an equilateral triangle in their entirety, the *Ananda* presents a far squatter appearance (See: **Appendix A, Plate 129**). It would appear that the emphasis is more upon horizontality than the more vertical temples noted. The relationship of the various triangles noted in **Plate 129** present interesting problems and possible solutions in themselves.

The *Ananda Temple* as a massive three dimensional *mandala*, that would seem to have obvious associations to the Tibetan *mandala* (See: **Plates 6 & 7**). Although it is not encircled by the *Chandi Perwara* or the *Chandi Apit* as are the *Loro Jonggrang* or *Chandi Sewu*, the various recessed niches might appear to fulfill the same purpose. The *Ananda*, truly, is one of the most spectacular religious structures in the inventory of man's accomplishments and a prominent jewel in Pagan's crown.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

That-Byin-Nyu

Pagan, b. 1165 CE

(PS)

Chronologically, standing between the earlier *Ananda* and the later *Dhamma-Yan-Gyi*, both examples of large temples, is the impressive *That-Byin-Nyu*. It exists as one of the last fully completed works of merit by the great builder King Alangsithu (aka Sithu I) (1113-1167 CE). Seated within the southeast corner of the old city, the *That-Byin-Nyu* typifies the creative genius of the Burman in the middle period of Pagan--i.e., its experimental quality and the innovative nature of the overall design. It further underlines the strong commitment of the Pagan monarchy to *Theravada Buddhism*.

In the *That-Byin-Nyu* the *gu* temple has been developed further than the basic plan of previous temples--e.g., the *Nan-Hpaya* (See: **Plate 53**), the *Naga-Yon* (See: **Plate 56**) and even, to some extent, beyond the *Ananda* (See: **Plate 57**). It consists of a vestibule-hall, oriented to the east, the more traditional compass facing. Although the extension of the porch from the main block is somewhat truncated in comparison to the *Nan-Hpaya* and the *Naga-Yon* it is, nonetheless, a grand entrance to this monumental structure. The vestibule is entered through any one of three major portals. The main doorway in the east façade is flanked by two smaller openings, almost window-like, which give way to narrow passageways to the *pradakshinapatha*. Within the north and south face of the vestibule is a major portal, each. To the east of these two doors are smaller entrances, mirroring those of the east façade.

The main block is square and nearly cross-axial *en plan*. On the north, west and south façades are smaller entrance portals, much in the same character as the *Myin-Pya-Gu*. They project out from the block a shorter distance than the east facade. On the ground level of the main, central structure is a single *pradakshinapatha*, the rest of the internal mass is solid masonry (See: **Figure 139**). There are twenty-two openings piercing the outer wall of the block throwing light into the *pradakshinapatha*--six in each wall flanking the portals of the north, west and south façades and four flanking the vestibule hall.

At this point, however, the references to previous structures ceases and innovation takes over in the form of a major staircase from the vestibule-hall which leads up to the second level of the main block--sometimes referred to as a mezzanine or an *entresol*. This staircase is wider than most found within an interior of a Pagan temple. On this level, the mezzanine, are two *pradakshinapathas* mirroring the *Ananda* (See: **Figure 139**). Within the outer wall of the *pradakshinapatha* #1 are twenty-eight windows penetrating the wall--seven on each face. It is to be noted that this *pradakshinapatha* does not completely encircle the entresol. However, the

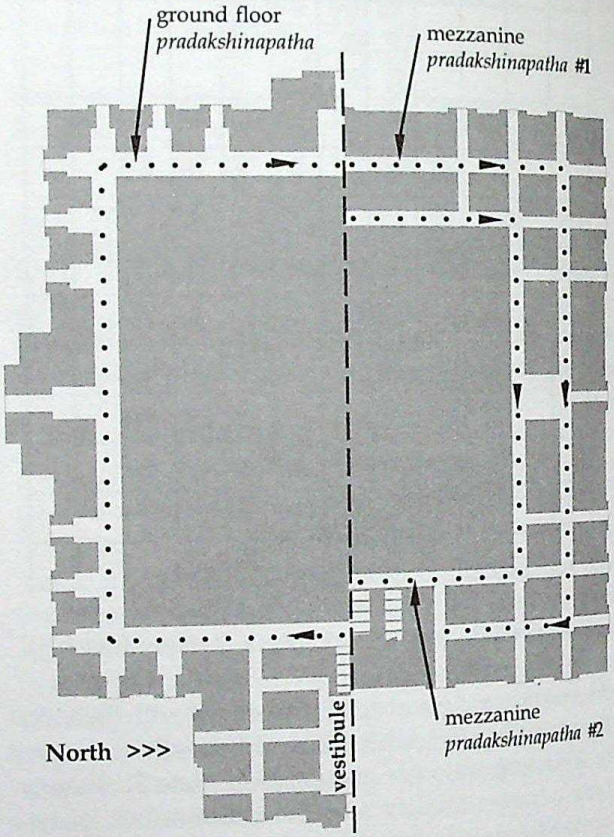


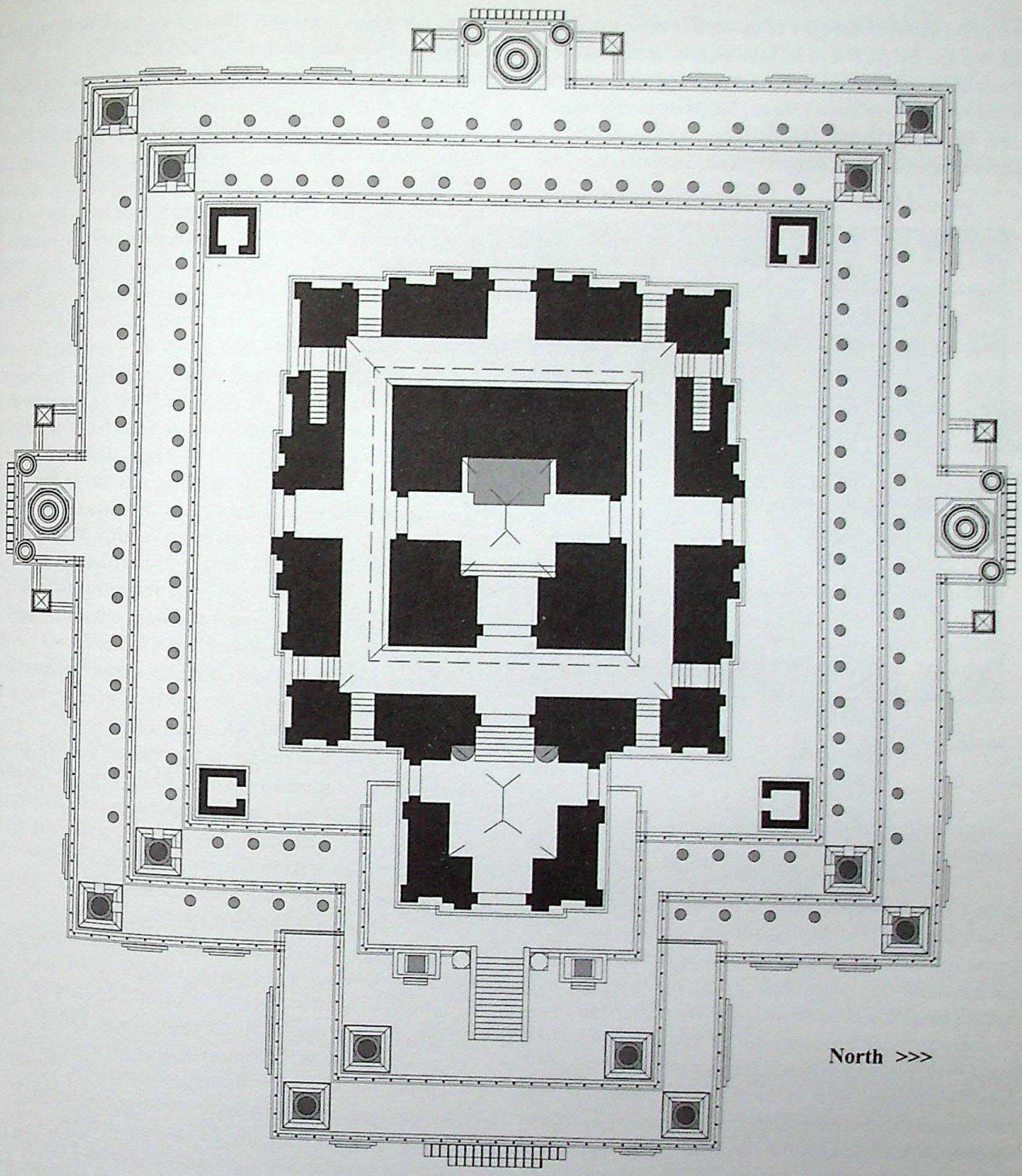
Figure 139: *That-Byin-Nyu*, ground floor (left) and mezzanine (right), plan indicating *pradakshinapathas*

pradakshinapatha #2, set in from the other does make complete circumambulation possible. From this point, within the eastern part of the *pradakshinapatha* #2, two narrow, internal staircase mounts to an open terrace--an area above the vestibule-hall. Finally, a third wide, external staircase ascends to the upper terrace-level from which the main shrine of the *That-Byin-Nyu* soars upward. The use of the broad staircase as a major architectural-design element--both from the ground level to the *entresol* and from the porch-terrace to the sanctuary level--was heretofore unused in ecclesiastical architecture of the Pagan or by the Burman in general.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 58 -- *That-Byin-Nyu* (main shrine plan)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The main shrine, *en plan*, recalls also the *Nan-Hpaya* or the *Naga-Yon* in its layout--i.e., a cella with a prominent vestibule-hall. However, this rather massive secondary structure is placed upon the main, three terraced base-form. The latter with its *pradakshinapathas* becomes a three dimensional foil

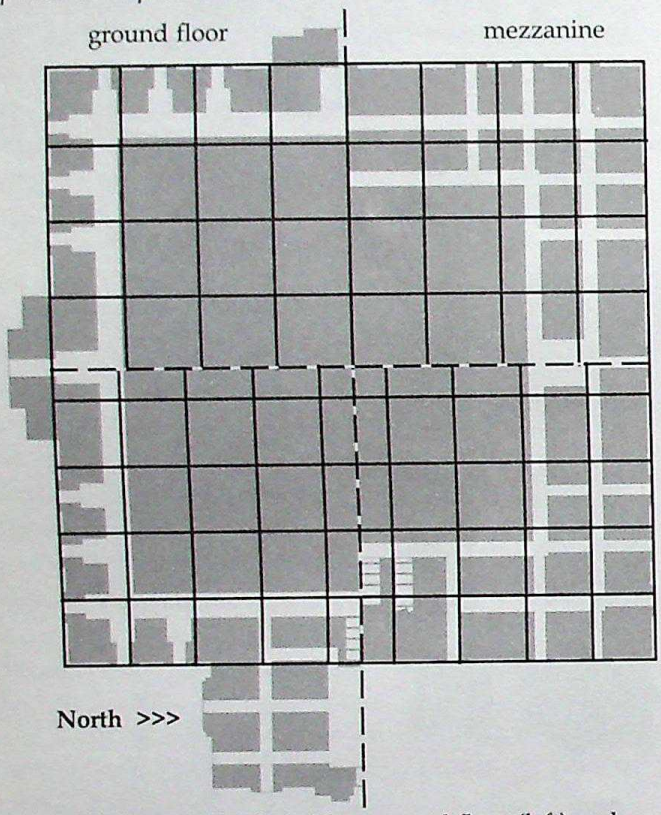


Figure 140: *That-Byin-Nyu*, ground floor (left) and mezzanine (right) plan indicating *Manduka Mandala* (top) and *Paramashayika Mandala* (bottom)

against which, or more succinctly, on which the shrine is juxtaposed. This base-podium sets off the main shrine in the same manner that a pedestal sets off a master work of sculpture. It has been stated that shrine's height is approximately two-and-a-half times the three terraced base structure.[19] However, it is to be noted that the sanctuary and its *anda* is almost precisely three times higher than the height of the base structure--the ground floor and mezzanine combined (See: **Appendix A, Plate 133**). This proportion gives greater visual, and, therefore, conceptual prominence--i.e., spiritual--to the sanctuary and lesser import to the base, entrance porch and the supporting terraces. A further, compositional point of interest is that the sanctuary and its two supporting terraces fall nearly entirely within an equilateral triangle as does the whole temple structure (See: **Appendix A, Plate 132**).

The shrine proper is composed of a main block in the plan of a *pancharatha*, slightly rectangular in shape, with a vestibule-hall extending to the east (See: **Figure 140**). The vestibule possesses a main entrance on the east façade and entrances on the north and south faces. Within the south, west and north façades of the main block are additional entrances which extend slightly from the face in the form of a *raha-ratha*. The vestibule and the three other entrances lead to a *pradakshinapatha*. In addition, each of the outer walls of the shrine-block have double fenestrations, one on either side of the entrances, near the corners. Built into the outer wall are two narrow, internal stairways leading up to a final terrace from which the *shikhara/ stupa* and its tall *chattravali* springs. The sanctuary block is likewise, slightly rectangular, as is the cella (*garbha-griha* or *gu*). Its walls are massive with entrances from the east, north and south. These allow a certain amount of light into the sanctuary.

The central shrine with its relatively wide entrance corresponding to the east entrance and a somewhat smaller doorways on the north and south median, allow more light into the sanctuary than other temples. Nonetheless, the *gu*-like atmosphere is retained (See: **Appendix A, Plate 133**).

On the third terrace, at the corners are four small shrines with a slender *shikhara*. Their orientation is of interest: the entrance of the eastern two face inward, towards each other; the western two are oriented towards the east. At the corners of the first and second terraces are twelve smaller *stupa* set upon tall plinths with passageways running through them.

There are several possible *mandala* applications for the *That-Byin-Nyu*. Either a *Manduka Mandala* or a *Paramashayika Mandala* are applicable to either the ground floor or the mezzanine (See: **Figure 140**). Similarly, a circular *Manduka Mandala* is also applicable (See: **Figure 141**). As with previous temples, the shrine block is not square, thereby making application of a square *mandala* difficult. However, it does easily fit within a circular *Manduka Mandala* (See: **Figure 142**). The outer circle embraces the whole of the shrine while the second enfolds the *pradakshinapatha*. The third circle virtually contains the sanctuary block and the inner circle protects completely the *garbha-griha* (*gu*).

Numbers here, too, appear to play an important

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

role. Three numbers appear of importance: three, seven, twelve and twenty-eight. Three referring to the three openings on the faces of the sanctuary block, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Seven, referring to the ground floor openings on each façade, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often

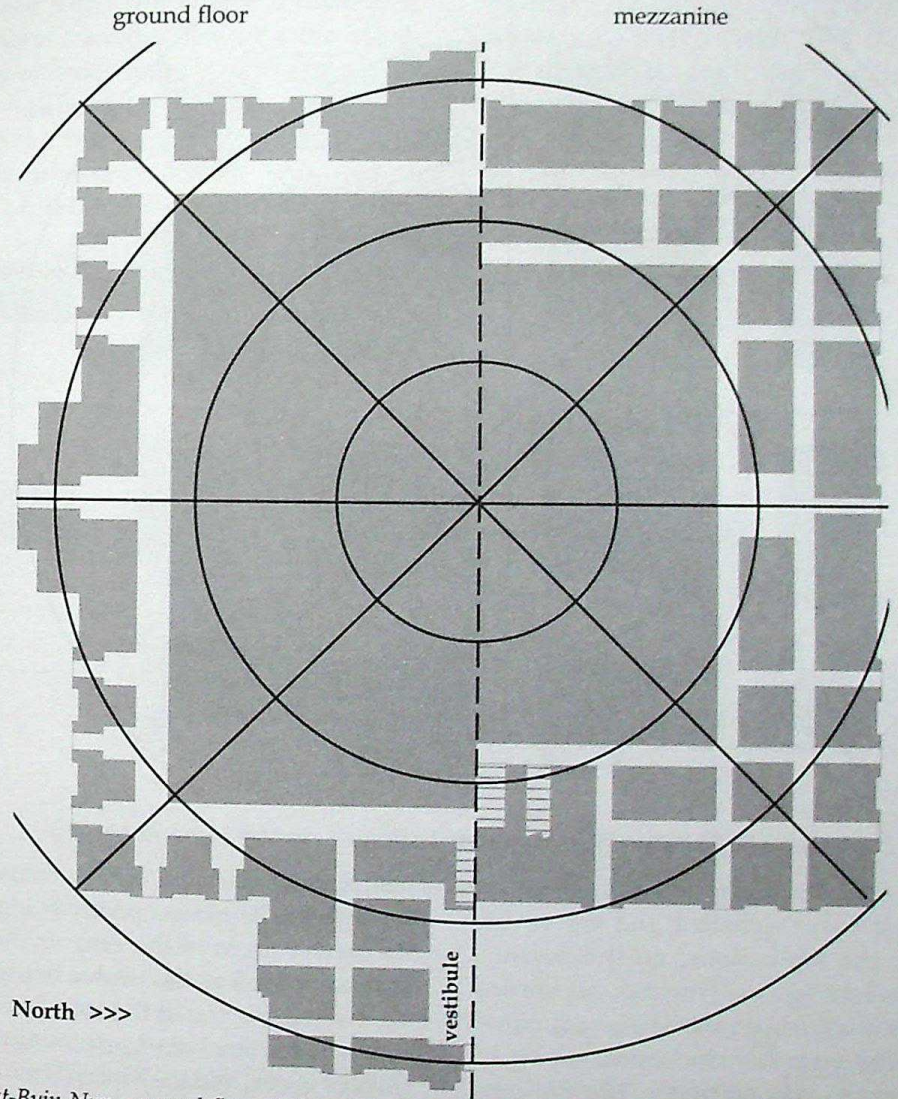


Figure 141: *That-Byin-Nyu*, ground floor (left) and mezzanine (right), plan indicating a circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven

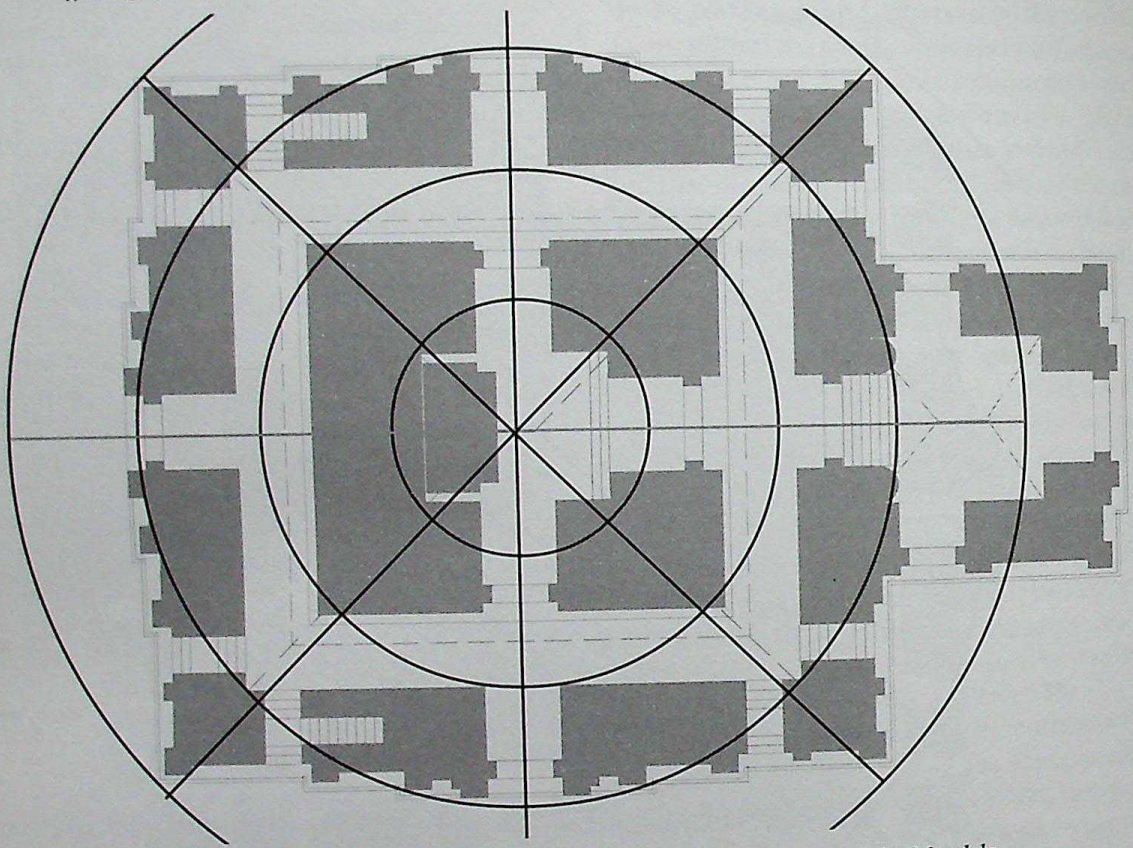


Figure 142: *That-Byin-Nyu* , sanctuary indicating circular *Manduka Mandala*

wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Twelve, referring to the smaller stupas on the first and second terraces, denotes sacrifice and is related to immortality. This numeral is: a cosmic number $12 \times 30 = 360^0$ as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. Twenty-eight, referring to the total number of openings on each storey of the façades, is an auspicious number, this numeral represents a number that is associated with the moon's cycle-- twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*) being *apaya-bhumi*,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

kamasugati-bhumi and the *rupavachara-bhumi*; and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*).

The exterior elevation is of interest (See **Appendix A, Plate 132**). The whole is contained within an equilateral triangle. Similarly, the upper portion, above the entresol, with its two terraces also fits within an equilateral triangle. It differs substantially with the elevation of the *Ananda*.

The whole is monumental: "All this is surmounted by the extraordinary *shikhara*, a squat broad form that acts on the great play of masses beneath, like a pressure valve holding down some powerful and energetic force. . . . unprecedented in Pagan."[20] Its greatness comes not only in its size and the traditional orientation of the whole, but also in the rather novel representation of the sanctuary which maintains the *gu* (cave) quality of the inner shrine and places it on a high place. Few of the sanctuaries of Pagan are so situated. The *That-Byin-Nyu* is, indeed, a corporeal representation of the sacred Mount Meru. In addition, it becomes on of the most developed three-dimensional *mandala*-plan temples of Pagan.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dhamma-Yan-Gyi

Pagan, b. 1165 CE

(PS)

The massive *Dhamma-Yan-Gyi*, a kilometer to the southeast of the old city, exudes mystery as well as a formidable presence. Based upon the Greek cross plan utilized in the *Ananda*, it lacks the tall elegance of its sixty year older prototype. In elevation, it appears squat, indeed the collapsed *shikhara* provides a truncated and unfinished dimension. Begun during the reign of King Alangsithu and completed during the early tenure of King Narathu (1167-1170) it gives the external appearance of a substantial, stepped pyramid--rising in five decreasing steps to the base of the *shikhara*, the latter with its two receding base elements (See: **Appendix A, Plate 134**). But, this is not the genesis of its enigma, neither does the fact that the exposed brick, without the benefit of stucco or whitewash, add to its foreboding, formidable character.

It is the interior which adds to the mystery--the *Dhamma-Yan-Gyi* apparently had been originally designed with a double ambulatory similar to the *Ananda* and the entresol of the *That-Byin-Nyu*. However, the inner *pradakshinapatha* and the north, south and west internal chapels had been bricked in. It has been conjectured that the incompleteness of this temple was due in part to the successor of Alangsithu, the King Narathu. Indeed, if this is true, Narathu did not complete the construction and, in particular, the sculptural ensemble that was normally associated with the temples of Pagan. This, too, is part of its intriguing history and form. The mystery revolves around the question of why this has been done. There are suppositions as to the reason for this truncation, among them is the possibility that the *pradakshinapatha* was sealed off because of structural reasons, also, possibly because Narathu needed to construct a temple for his own merit, royal presence and power.[21]

As has been stated, *en plan*, the *Dhamma-Yan-Gyi* is very similar to the *Ananda*: possessing four well developed vestibule-halls at the cardinal points of the compass. Each of these porches possess three doorways, one facing the cardinal point and two secondary doors set perpendicular to the main doorway, twelve in all. As with the *Ananda*, three door/passageways lead off the vestibules into a *pradakshinapatha*. There are four windows on each face, two on either side of the porches which light the *pradakshinapatha*, totaling sixteen. In addition, the interior, apparently was to have, or did have a second *pradakshinapatha* as does the *Ananda*. Excavations have been undertaken releasing the inner *pradakshinapatha* from its masonry oblivion. This excavation indicates twenty passageways leading from the outer ambulatory, five on each side, to a fully developed inner *pradakshinapatha* complete with three additional sanctuaries to the north, west and south.

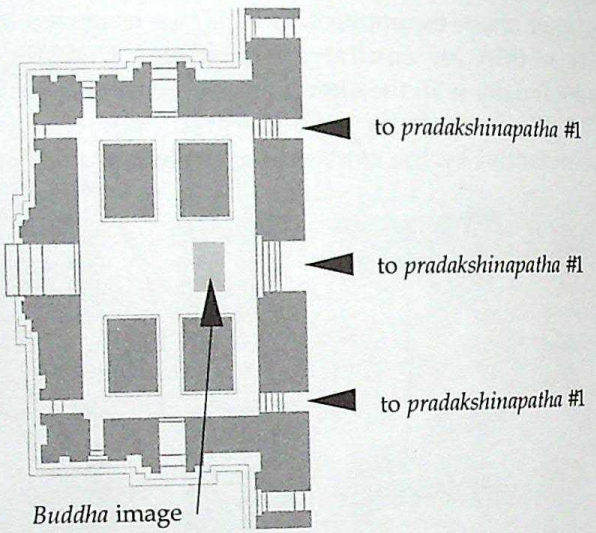


Figure 143: *Dhamma-Yan-Gyi*, detail, vestibule hall indicating location of the *Buddha* image in south, west & north verstibules

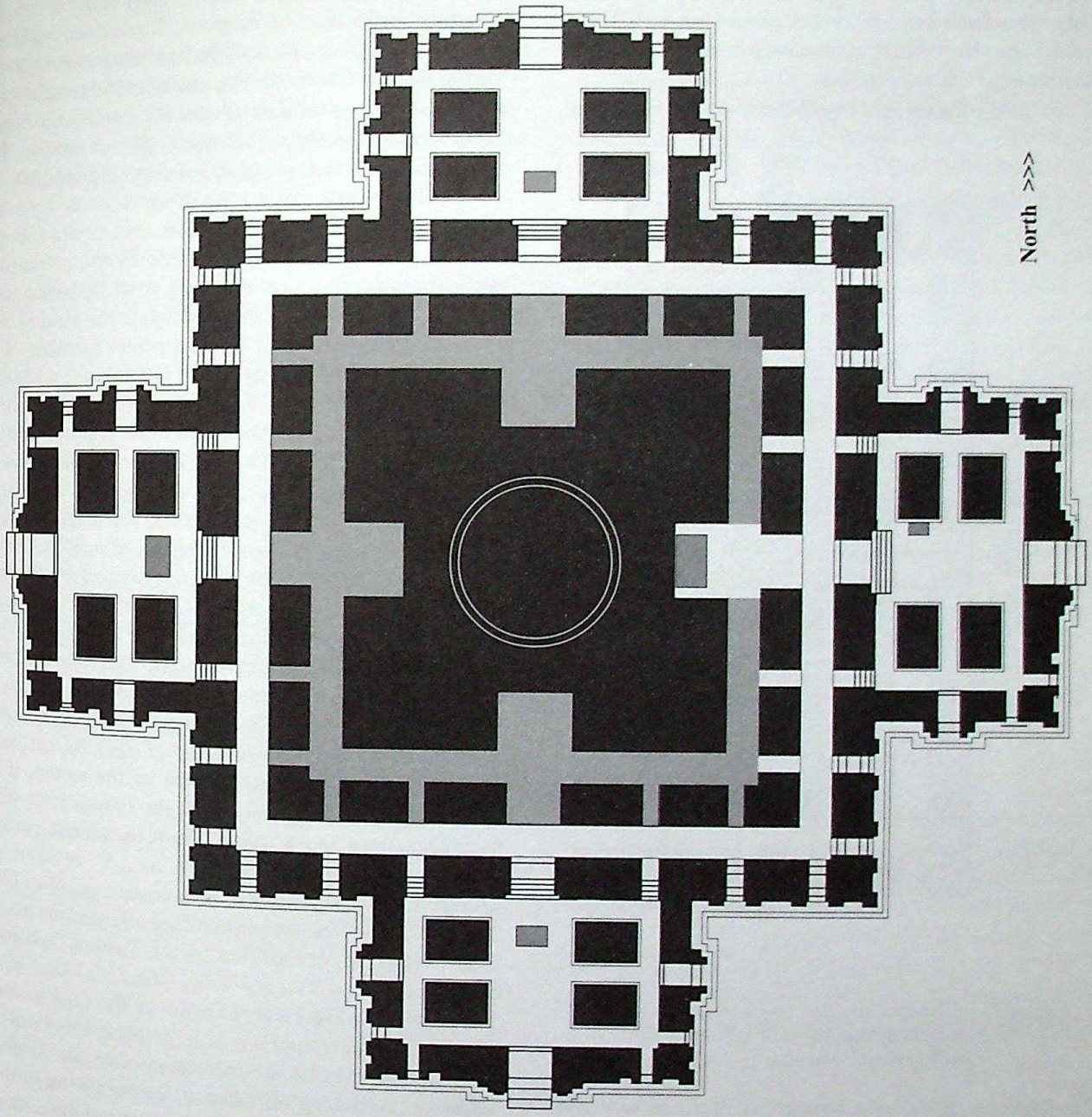
The well developed vestibule-halls are nearly identical in form to the *Ananda*, being rectangular with four massive piers around which one might circumambulate (See: **Figure 143**). The north, south and west vestibules hold important icons. In front of the main entrance to the *pradakshinapatha* of the north, south and west vestibule-halls are seated *Buddha* images (in *bhumisparsha mudra*), one each screening that entrance. In the west vestibule-hall one finds two *Buddha* figures seated side by side (in *bhumisparsha mudra*). It is supposed that these two images represent the Lord *Buddha Shakyamuni* and the Future *Buddha*, *Mettaya* (*Maitreya*). This manner of presentation is related to the Pyu style.[22] The ambulatory of the porches would then come into viable use.

The three sealed sanctuaries may well have been dedicated to the three previous *Buddhas* of the present age--i.e., *Buddha Kakusandha* (*Krakucchanda*), *Buddha Konagamanda* (*Kanakamuni*) and *Buddha Kassapa* (*Kashyapa*). With the supposed inclusion of the image of *Buddha*-to-be *Mettaya* (*Maitreya*) in the west

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 59 -- *Dhamma-Yan-Gyi*



= bricked-in areas

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

vestibule-hall the temple may well have been dedicated to the five *Buddhas* (*Pancha-Buddhas*) of the present age, a theme which became popular in Pagan.[23] Their placement, deep within the mass preserved their *gu*-like import.

Unlike the earlier *Naga-Yon* or the *That-Byin-Nyu*,

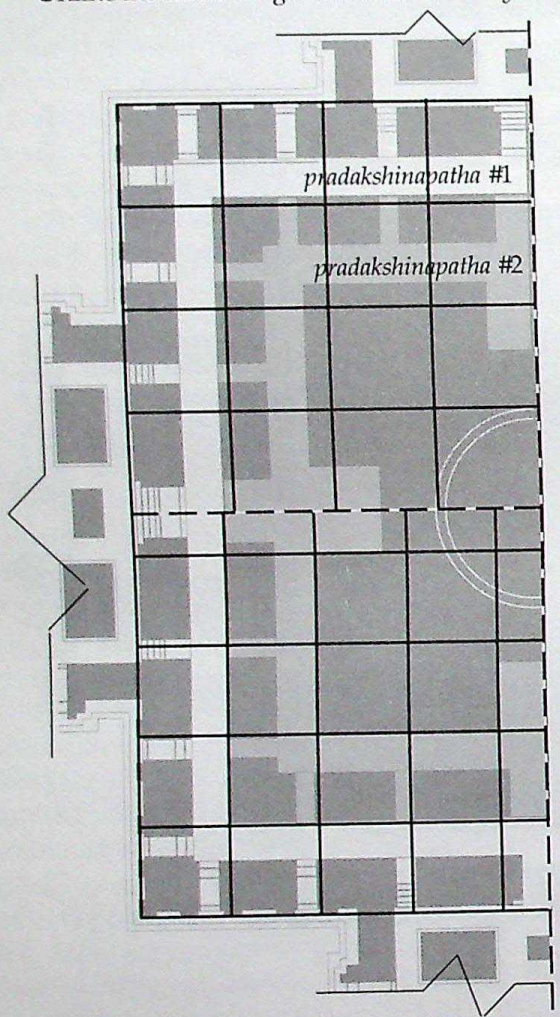


Figure 144: *Dhamma-Yan-Gyi*, main block, west half indicating *Manduka Mandala* (above) and *Paramashayika Mandala* (below)

the *Dhamma-Yan-Gyi* is square in plan, as was the *Ananda*, and offers easier assertions as to the square *mandala* type. Two square *mandala* plans seem most applicable--i.e., a *Manduka Mandala* and a *Paramashayika Mandala* (See: **Figure 144**). In both instances the *shikhara* is protected by the *mandalas*' *Brahmásthana*. Similarly in both *mandalas*, the pradakshinapathas fall within the two outer ranks of *pada*. As might be expected, a circular *Manduka Mandala* when impressed upon the whole also produces similar salient results. The outer circle embracing the whole structure, including the porches. The second encloses the *pradakshinapatha* #1, and the images that rest within the vestibules. The third ring encircles the central core and most of the *pradakshinapatha* #2. Finally, the outer circle touches the shrine(s) inner wall and protects the *shikhara/stupa* which soars above (See: **Figure 145**).

There are four numbers which appear important: four, twelve, sixteen and twenty. Four referring to the four porches, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas* being: *dharma* (virtue), *artha* (purpose), *kama* (pleasure), *moksha* (liberation); the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Twelve, referring to the entrances, denotes sacrifice and is related to immortality. This numeral is: a cosmic number $12 \times 30 = 360^0$ as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Guru). Additionally, it represents the *Anahata Chakra*. Sixteen, referring to the outer windows into the *pradakshinapatha* #1, denotes divine destruction, the fall of man and the visible world. This integer also signifies completeness or balance being made up of opposites--the Sun and Venus. It is a number whose √ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*. Finally, twenty, referring to the passageways leading into the second *pradakshinapatha*, denotes, as double ten , perfection or completeness, success, and cosmic wisdom. This number is auspicious in its make up and represents renewal. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*. As a compound number it is associated with the Moon (*Soma* or *Chandra*).

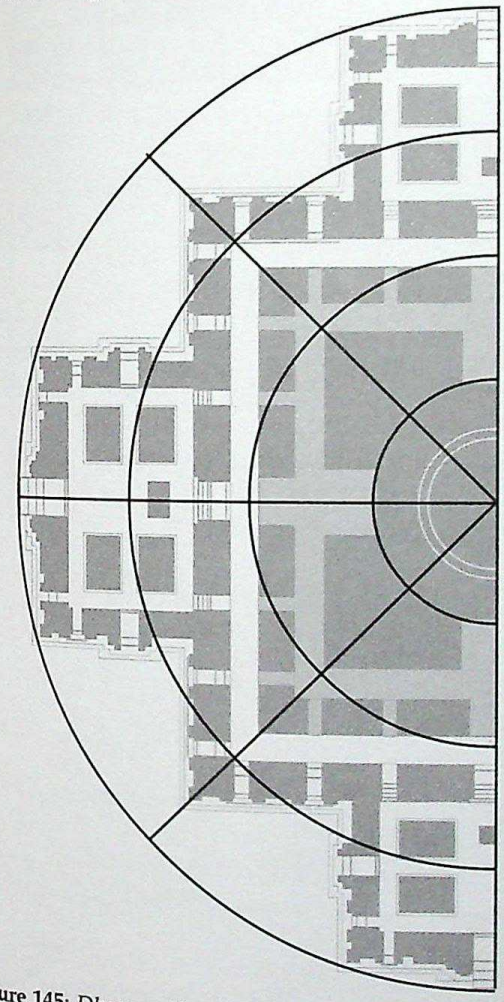


Figure 145: *Dhamma-Yan-Gyi*, indicating circular *Manduka Mandala*

Nonetheless, the plan, although neither unique nor experimental offered a substantial foundation upon which to build this massive temple. Precisely how tall was the *anda* and *chattravali* is of some interest, however, the dimensions of the base are such as to cause one to assume that its scale was not in the same proportion as the *shikhara* of the *Ananda*. Where the latter has be characterized as elegant, the *Dhamma-Yan-Gyi* is massive.

The size and impression of the *Dhamma-Yan-Gyi's* is formidable, immense, huge, and even intimidating. Its unique, ascending terraces from its substantial base to its pinnacle has been likened unto the "crescendo. . . of a thunderous symphony"[24]--probably Mahler or, maybe, even Shostakovich. If it may be allowed, a more apt simile would be the resounding finale of a celestial fugue based on the *Vajradhatu Mandala* theme and influenced by its predecessor, the *Ananda*. Such is the *Dhamma-Yan-Gyi Temple*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Gawdaw-Palin

Pagan, 13 C. CE

(PS, PR, JDII)

Within the old city walls, close to the Irrawaddy, rises a later temple of interesting proportions, the *Gawdaw-Palin*. It is a temple that appears to be moving in a different direction, particularly when compared to the *Ananda* or the *Dhamma-Yan-Gyi*, but akin to another inner-city temple the *That-Byin-Nyu*. Smaller in size and scale than its predecessor, the *That-Byin-Nyu*, it possesses its own charm.

Built in the thirteenth century, the *Gawdaw-Palin*, as many of the previous temple/shrines, *en plan* follows the Indian axial prototype of a square sanctuary with an extended main porch to the east. There are three additional and developed entrances at the north, west and south points of the compass, similar to the *Ananda* and the *Dhamma-Yan-Gyi*. The *Gawdaw-Palin*, however, does not extend these latter three porches into a Greek cross plan, but adheres to an east-west axial plan rather than a cross-axial plan. Within each face of this temple are four additional entrances--two on either side of the central portals--for a total of five on each façade, totalling twenty. It is also noted that the basic plan of the *Gawdaw-Palin* is of a modified *pancharatha* design--the *raha-ratha* being somewhat narrower than the standard, extending to include only the main portal of each face. The eastern porch leads to a small square, inner space, a diminutive vestibule, with doorways in the north and south walls leading to the *pradakshinapatha*. Also on the west wall of this vestibule is another doorway which leads directly to the main shrine which unlike the *Ananda* and the *Dhamma-Yan-Gyi* is not within the central core of the structure. On the inner walls of the north, west and south ambulatory are three pedestals each, centered on the portal and the two flanking openings--totaling nine. The central core supporting the upper storey is solid and without any piercing whatsoever. Off the east *pradakshinapatha* there are two narrow stairs leading up to the upper terrace level.

There is an obvious relationship of total plan between the *Gawdaw-Palin* and the *Dhamma-Yan-Gyi* in that the former, as the latter, possesses an additional form,[25] or structural extension above the main block. However the *Gawdaw-Palin* does not possess a 'mezzanine' as does the *Dhamma-Yan-Gyi*, neither is the access to the upper level as grand nor is it treated as an integral part of the plan.

The application of a *mandala* based design presents three possibilities. The first, a square grid of sixty-four *pada*, a *Manduka Mandala*, appears applicable. The second, a *Paramashayika Mandala* also presents a viable alternative (See: **Figure 146**). In both *mandalas* the *shikhara* is protected by the *Brahmásthana*. A circular *Manduka Mandala*, centered on the *shikhara* and extending to the limits of the main block, also offers a

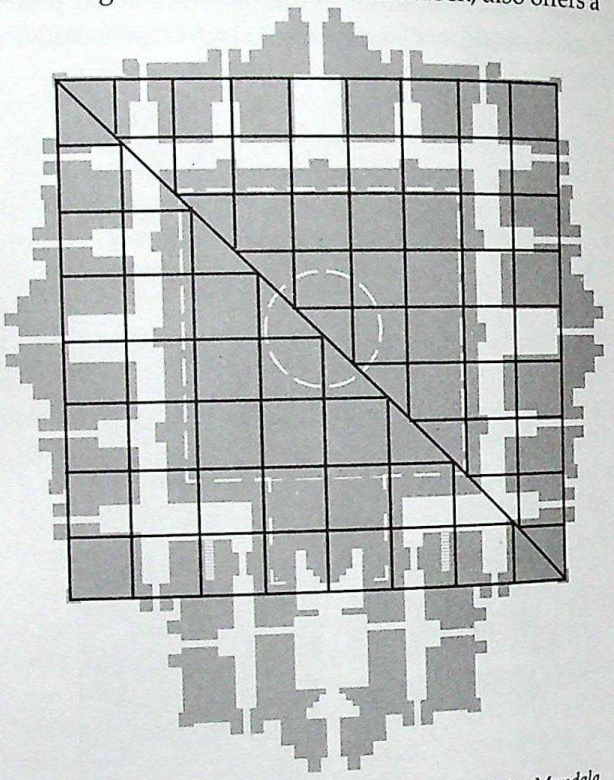


Figure 146: *Gawdaw-Palin*, indicating *Manduka Mandala* and *Paramashayika Mandala*

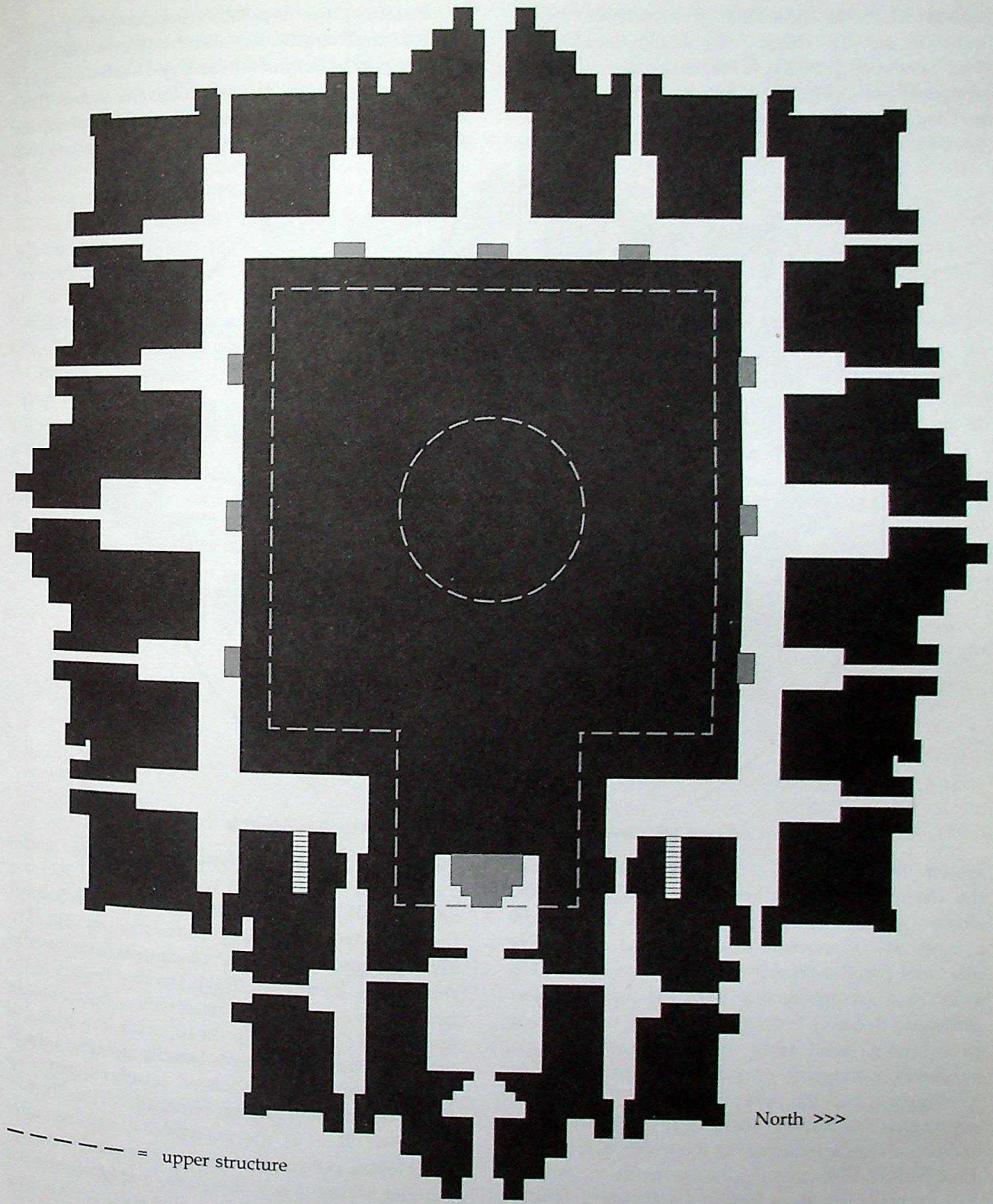
viable solution. The outer circle encompasses the whole central structure. The second ring encircles the *pradakshinapatha*, while the third touches the *patha's* outer edge. The inner circle protects the *shikhara* above (See: **Figure 147**).

Numerological considerations here offer some insight. In particular, there are four numerals which appear to be of some importance: three, five, nine and twenty. Three, as in the three altars on each of three of the *pradakshinapatha's* inner face, signifies perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. It is the most sacred number within the Hindu faith. It is exemp lified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi,*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 60 -- *Gawdaw-Palin*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Parvati; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Five, referring to the entrances on each face as well as to the *pancharatha* design, symbolizes magical properties, mental activity, intelligence, and the natural elements. This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Nine, referring to the nine pedestal/altars of the *pradakshinapatha*, connotes completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most

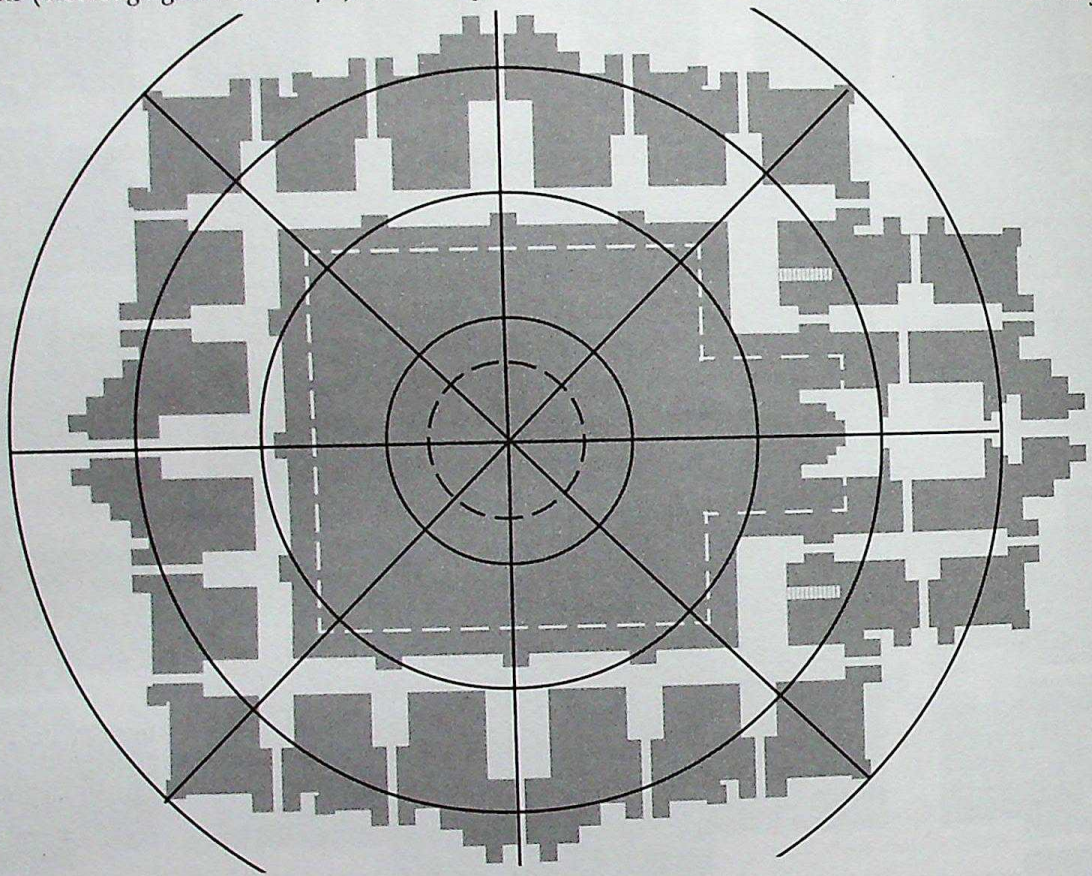


Figure 147: *Gawdaw-Palin*, indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

sacred number. This number connotes space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Twenty, referring to the five entrances at the cardinal points of the compass, denotes, as double ten, perfection or completeness, success, and cosmic wisdom. This number is auspicious in its make up and represents renewal. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*. As a compound number it is associated with the Moon (*Soma* or *Chandra*).

The *Gawdaw-Palin* in its elevation exhibits a deviation from what had become the norm in Pagan architecture--i.e., without the *entresol* and the piercing of the outer wall that would have been entailed, creating a horizontal plane, the emphasis on the elevation is of greater height (See: **Appendix I, Plates 135 & 136**). This combined with the reduced lateral dimension of the main block and the truncated north and south porches also adds to the apparent increased emphasis. The horizontal is transferred to an emphasis upon verticality.

The *Gawdaw-Palin* may be seen as an attempt to rival the *That-Byin-Nyu*, but in fact they are 'siblings'--one older, more developed and the other younger more daring. It is a temple which maintains many of the traditions which had gone before and adapted itself to the changing character or whims of the populous. In that sense, the *Gawdaw-Palin* is an apt manifestation of the later part of the greatness that was Pagan.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Myinkaba Kubyauk-Nge

Pagan, c. 1225

(PS)

The *Myinkaba Kubyauk-Nge* is a middling sized *gu*-type temple built during the reign of King Nantaungnya (1211-1234). This axial temple exhibits certain connections with its predecessors. However, there are a number of noteworthy variations that this temple possesses as well as solutions to design problems that sets it apart.

Its plan resembles a Latin cross, consisting of a square central block with a prominent vestibule-hall extending to the east, developed porches on the north and south, and a west porch that is longer than the north and south porches, but not as long as the east vestibule hall. The eastern vestibule consists of a square vaulted chamber with exits not only towards the east, but also to the north and south. The relative size of this space in comparison to the western vestibule plus the addition of the north-south entrances attaches additional importance to this area. Indeed, it appears to function in the way that the *mandapa* of the Indian prototypes do--i.e., an assembly area for the worshippers. In addition there are small doorways leading to narrow stairs mounting to the upper terrace set in the easternmost part of the north and south walls. The western entrance is similar to the eastern vestibule, but on a smaller scale, being nearly half the length. The western two doors of this porch, corresponding to the stairway doors in the eastern entrance hall, lead to long narrow spaces lit each by a narrow window. These two spaces may have been subsidiary chapels.

The central block of the *Myinkaba Kubyauk-Nge* consists of a rectangular inner space with narrower extensions to the porches at the cardinal points of the compass. The only sources of light to this interior space is from the doors of the porches. In the center of this block is a smaller solid-core mass which, in part, supports the superstructure--i.e., a *shikhara*. On the four surfaces of this inner core are four pedestal altars, oriented to the cardinal points of the compass. On the east face of the central block is (was) the main image of the Lord *Buddha* placed upon a rather large altar. This central block, it is to be noted, is not square but rectangular, further, the area in front of the main image is somewhat deeper than the other three sections of the ambulatory. At the north side of the central block on an altar are three figures: the central figure of the Lord *Buddha* flanked by two figures much ruined. It is suggested that the three figures may represent the 'Miracle of *Savatthi*.'[26] At the other two points of the compass--west and south--are (were) smaller images (altars), the western one no longer exists in place. However, the western altar area possesses another distinction--it is the only altar which is set within a niche. Within the outer wall of the ambulatory are

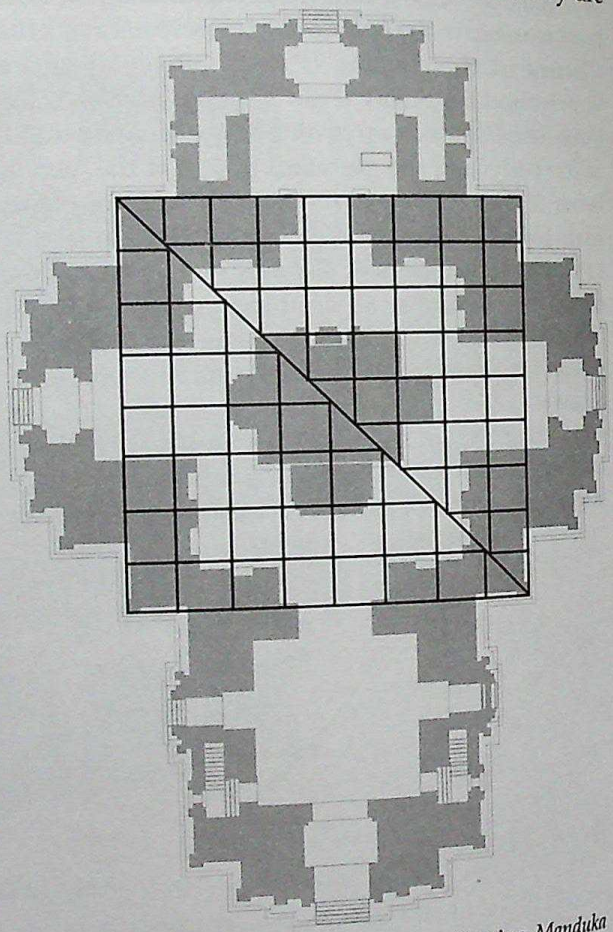


Figure 148: *Myinkaba Kubyauk-Nge*, indicating *Manduka Mandala* and *Paramashyika Mandala* over central block

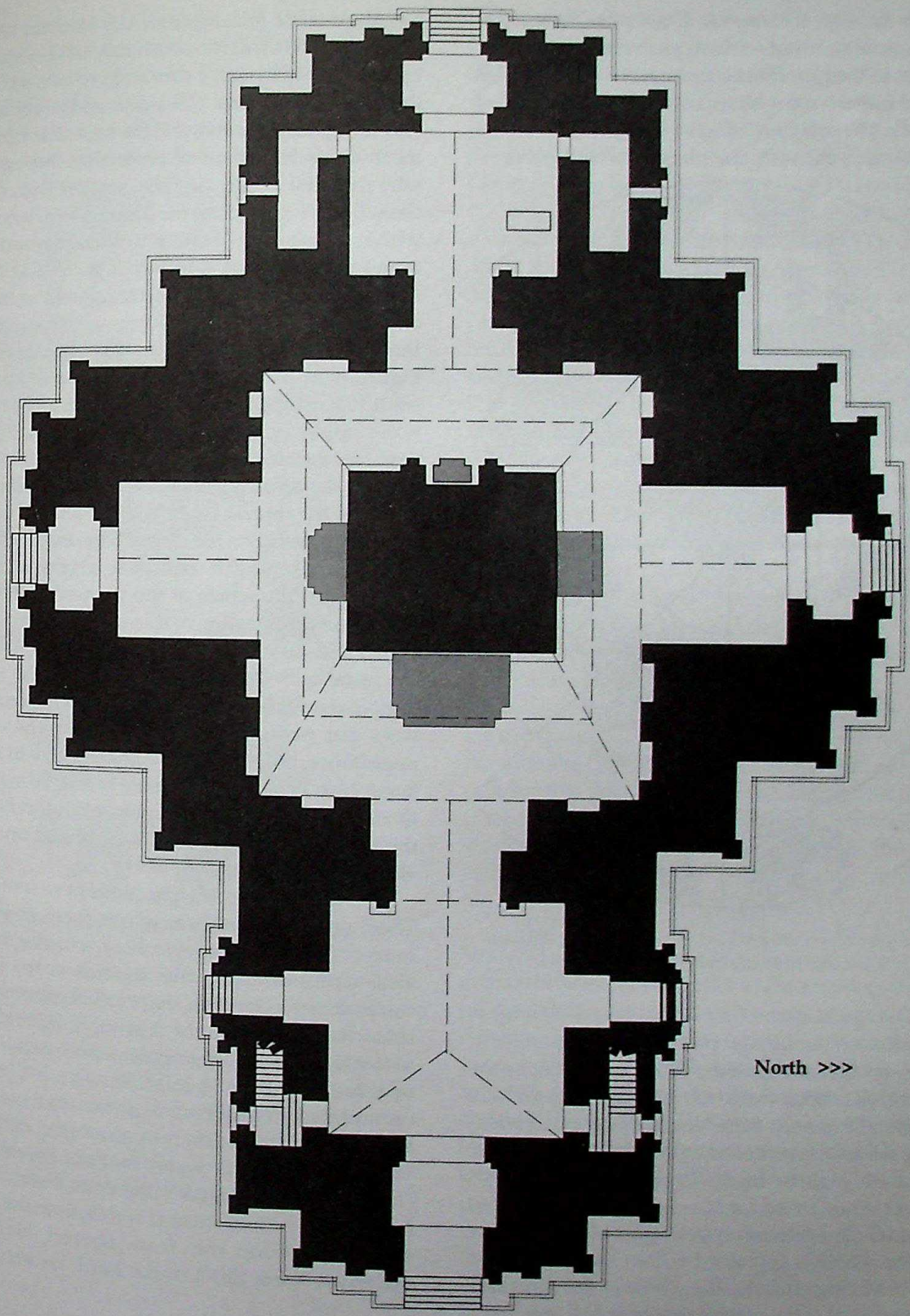
twelve niches containing images relating to the life of the Lord Buddha. As noted above, neither the sanctuary space, nor the central, solid block are square, but rectangular--the length of the space is oriented east-west and of the central block, north-south--yet the vaulting ridge that encircles this space is square. The outer limits of the main block, also, is square.

The axial plan is not rare, however, it is unusual in its resemblance to the Latin cross. The placement of *Buddha* images against the wall of the central block is, likewise, not infrequent--the *Sapada Temple*, the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 61 -- *Myinkaba Kubyauk-Nge*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dhamma-Yan-Gyi, the *Ananda Temple*, the *Shwe-Zigon* all have similar, if not variant, placements--and may also refer to the four *Buddhas* who have existed in this era. The eastern most altar posses the importance of size while the western, smaller altar/shrine of this central block is the only one placed within a niche.

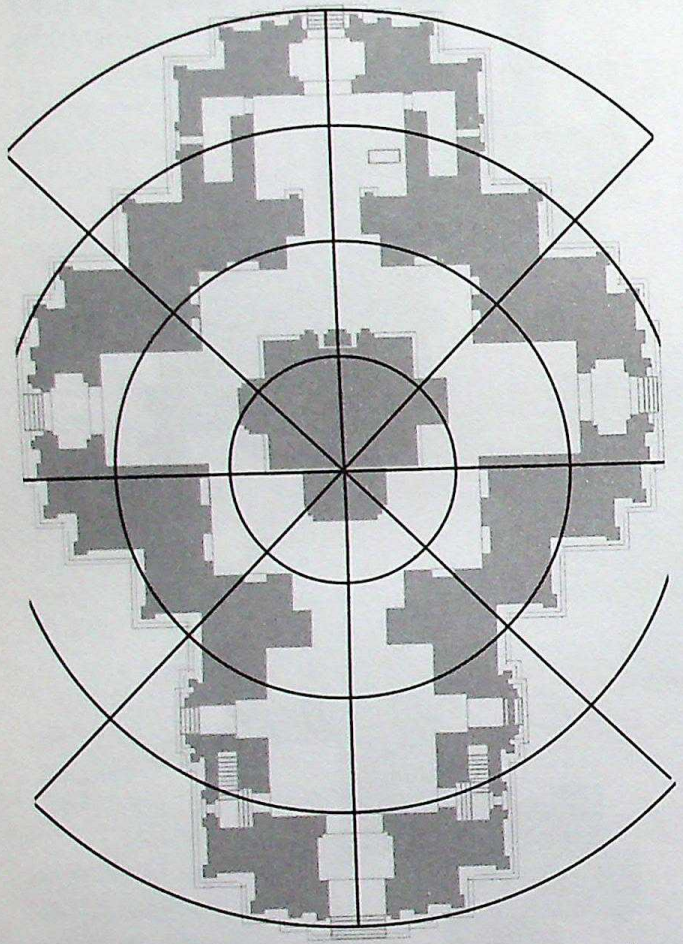


Figure 149: *Myinkaba Kubyauk-Nge*, indicating circular *Manduka Mandala* over entire temple

The application of a *mandala*-based plan upon the *Myinkaba Kubyauk-Nge* presents certain problems. A square grid placed upon the whole, or even upon the central block is not a viable solution (See: **Figure 148**). Normally, the central form, in many cases a *garbha-griha* or *shikhara*, is enclosed within the *Brahmásthana*; not so with regards to the *Myinkaba Kubyauk-Nge*. However, when a circular *Manduka Mandala* is placed over the whole, a solution appears possible (See: **Figure 149**). The whole is contained within the outer circle. The second ring encircles the whole of the sanctuary block and most of the eastern vestibule hall (*mandapa*). The third circle encompasses the internal cella area. The inner circle's north-south median rests upon the eastern edge of the inner core and protects the whole of the large eastern altar. The north and south altars are only marginally covered, and the west altar falls outside the inner circle's sphere of protection. Perhaps, this is why this altar is substantially smaller than the other three. But, why is it given the distinction of being placed within a niche? An answer to this question may be found in a different solution. If a circular *Manduka Mandala* is applied to the sanctuary area as the center, and the extension of the north-south porches as its limit, then another solution appears possible (See: **Figure 150**). The outer circle encompasses the north-south extensions, the whole of the sanctuary block, the north, south and west vestibule halls and half of the eastern vestibule hall. The third ring's eastern edge touches the eastern limits of the *garbha-griha* and the whole of the central block with its altars. Finally, the inner ring rests upon the central core, includes portions of the north, south and east altars, and, more importantly, the whole of the western niche with its altar. Is this application of a *mandala*--the latter seen in **Figure 150**--the solution? Certainly, it would explain the niche with its smaller altar, set in the west, the preferred orientation. The large size of the eastern altar does not necessarily denote an image of major importance, merely one of sufficient size to require a larger base. Size does not equate to level of importance. Quite possibly, at least the plan would indicate, that the major, important image was placed on the west altar within its protective niche.

Numerological implications have some import. There are three numbers which seem of particular interest: four, six and twelve. Four, referring to the four altars surrounding the central core, signifies completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a higher plane, a number whose $\sqrt{}$ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is

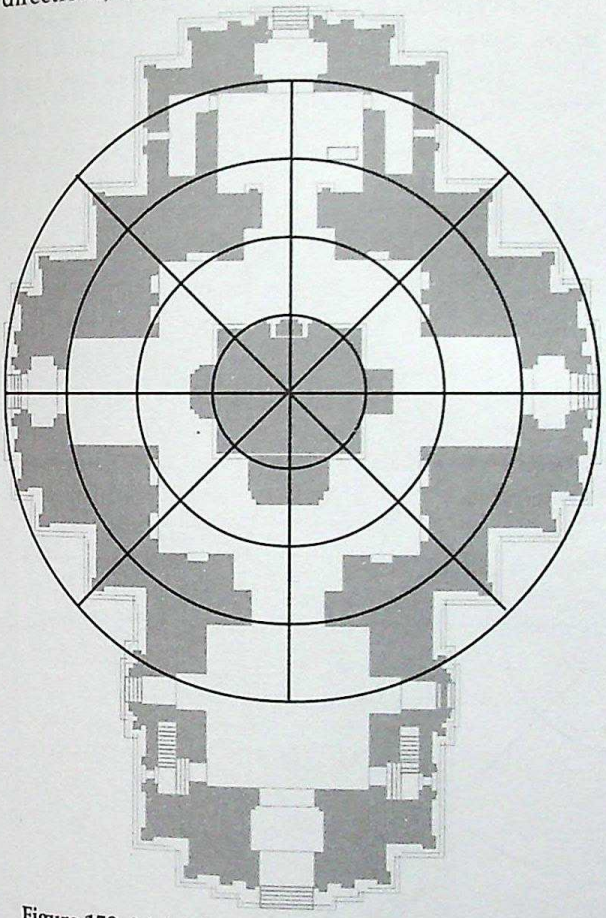


Figure 150: *Myinkaba Kubyauk-Nge*, indicating circular

associated astronomically with the planet *Rahu* (the ascending node of the moon). As with the number two, the even number four is seen to be associated with the Moon. Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Six, referring to the six entrances into the interior of the temple, connotes the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. This integer is considered to be the most perfect number and the product of the first male and female numbers signifying universal attraction. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu*; the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*); the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra*. Twelve, referring to the twelve niches in the inner wall of the cella, denotes sacrifice and is related to immortality. This numeral is: a cosmic number $12 \times 30 = 360^0$ as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*.

The *Myinkaba Kubyauk-Nge*, as the *That-Byin-Nyu*, and earlier, the *Ananda*, indicates various planal, architectural experimentations. The smaller size tends to preclude vast or even complicated iconic representations. Nonetheless, its plan with the axial Latin cross and the eschewing of the square for the central core as well as central space gives the *Myinkaba Kubyauk-Nge* a unique plan and, the possible solution for this plan offers an explanation and a revelation into the creative minds of its builders.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bogyoke-Mi Kubyauk

Pagan, c. 1170-1270 CE

(PS)

The *Bogyoke-Mi Kubyauk*, also known as *Thiri-Ya-Pyit-Saya Kubyauk*, is a temple of the late period of Pagan's illustrious history. In many ways it would appear to be a reversion to earlier types--in particular the *Nat-Hlaung-Kyaung* and the *Naga-Yon*. However, there are a number of ways in which this temple strays from the canons that earlier appeared to be inviolate. There would appear to be many reasons for these apparent deviations, the least of which is the recurrent hetrodoxy evident in Pagan.

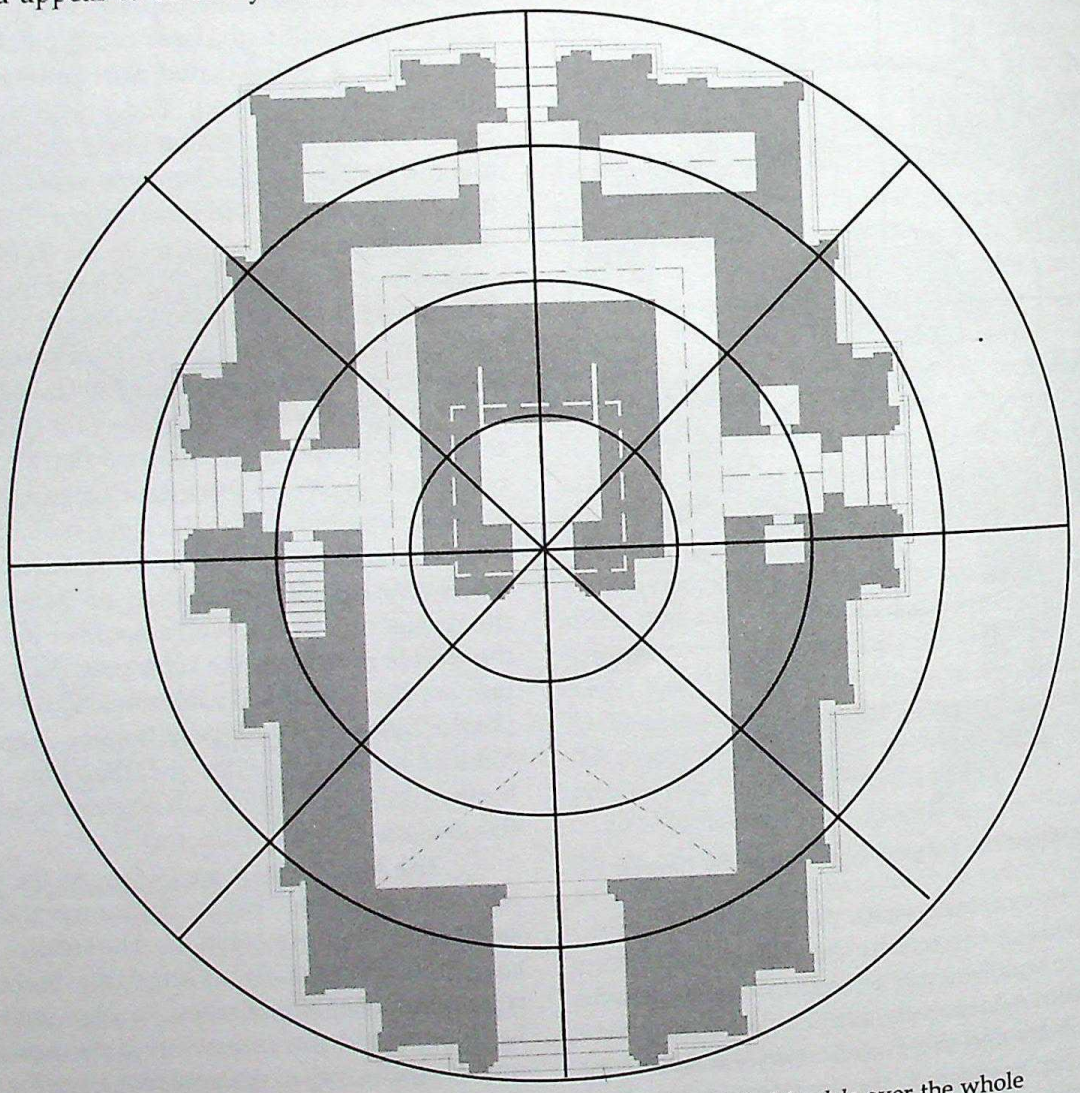


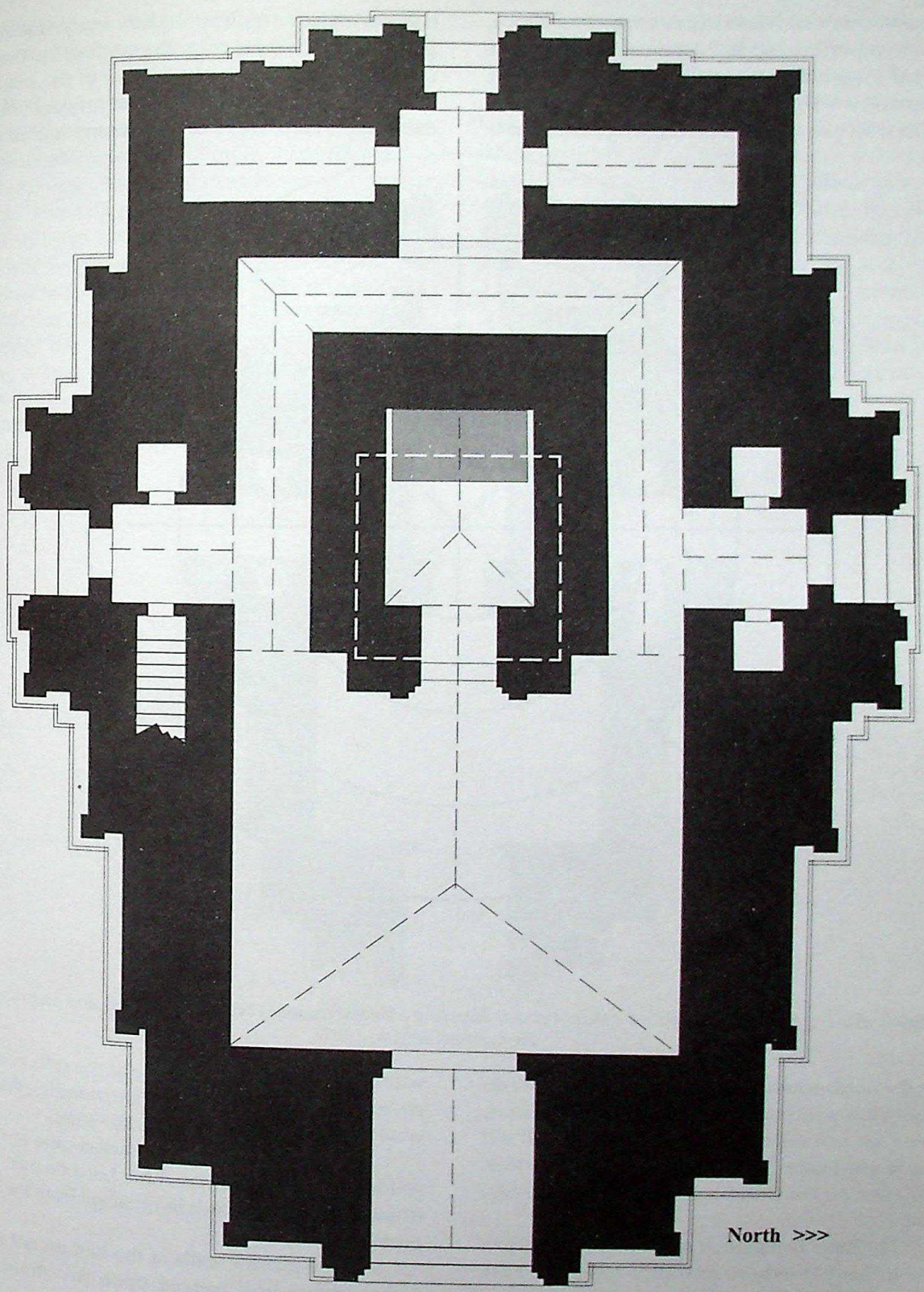
Figure 151: *Bogyoke-Mi Kubyauk*, indicating circular *Manduka Mandala* over the whole

En plan, the axial *Bogyoke-Mi Kubyauk* would appear to present a typical *gu*-like temple. It is oriented towards the east and possesses entrances at the cardinal points of the compass. However, this axial temple is rectangular, rather than square in virtually all of its forms. The north-south axes is well towards the west of the east-west median. The walls tend to be overly thick, particularly in the extensions that denote the north-south porches. The east portico cannot be called a vestibule except in space only. It indicates a broad deep entrance, framed by thick walls. This recessed entrance gives way directly to the large rectangular inner space. Nonetheless, this east façade is somewhat elaborated in form. The north mirrors the southern portico in that it slightly extends beyond the wall of the cella, possesses a hall with two niches or small rooms on either side. The exception is the eastern space of the southern entrance--this is the entrance to

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 62 -- *Bogyoke-Mi Kubyauk*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the narrow stairs which lead to the terrace level above. The western portico and its immediate inner area is somewhat more elaborate *en plan* than the eastern. It too possesses a wide hall leading to the inner space, but rather than two small rooms flanking this hall as is seen in the north-south entrance ways, here one finds two doorways which lead to long narrow chambers, hollowed out, as it were, from the mass of the wall and with no fenestrations. This entrance, it would appear, is a variation on the western portico of the *Myinkaba Kubyauk-Nge*.

The inner rectangular space holds the shrine--*garbha-griha*-like--whose entrance faces the east. Neither are the exterior nor the interior dimensions of this shrine square, but slightly rectangular. The placement of the porticoes to the north and to the south does little to illuminate the interior of the sanctuary. What little natural light is allowed in would be from the eastern entrance. The placement of this shrine within the larger interior space of the cella creates an ambulatory (*pradakshinapatha*) surrounding the north, west and south sides of the *garbha-griha*.

Within the rectangular, sacred cave (*gu*) of the *garbha-griha* sits an image of the Lord *Buddha*. It is so situated as to receive little light except from the eastern portal.

The interior walls of the hall do not possess niches, depending, instead upon two dimensional

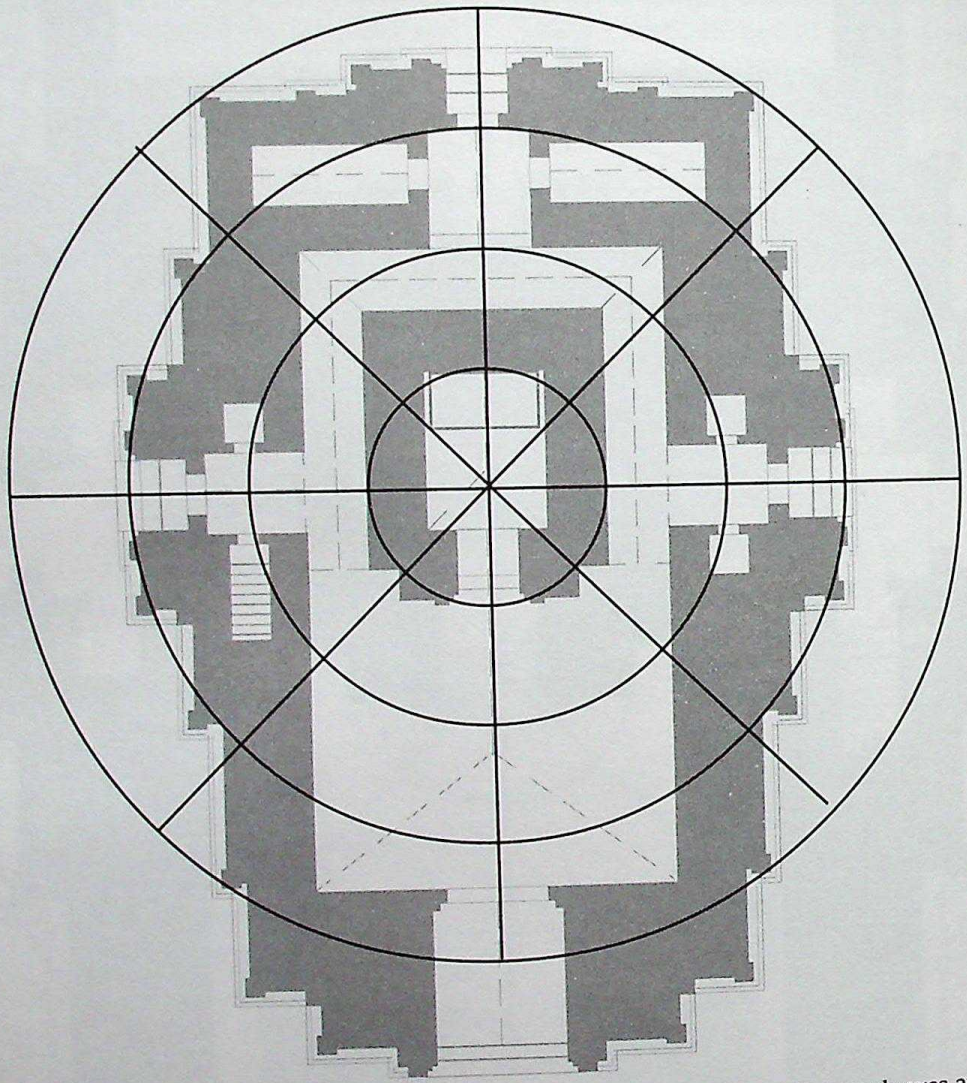


Figure 152: *Bogyoke-Mi Kubyauk*, indicating circular *Manduka Mandala* centered on the porch axes and including the western section

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bogyoke-Mi Kubyauk (Concluded)

forms. The *shikhara* which rises above the *garbha-griha* is square *en plan* and is related in form to the *Bodh Gaya* archetype.

The application of a *mandala* to the *Bogyoke-Mi Kubyauk* is highly problematical. Due to the unrelenting rectangular character of the temple, the application of a square *mandala* offers no solution. However, a circular *Manduka Mandala* placed over the whole offers a possible solution, however, unsatisfactory (See: **Figure 151**). It is to be noted that neither the *garbha-griha* nor the *shikhara* fall within the confines of the *Brahmásthana*. If, on the other hand, a circular mandala is centered on the axes of the porches and including the western portion, a somewhat more acceptable solution is achieved (See: **Figure 152**). The inner circle, the *Brahmásthana,* involves the *shikhara* and nearly the complete altar-form.

The long rectangular and axial character of the *Bogyoke-Mi Kubyauk* resembles the extended axiality of Sri Lanka's *Tivanka Pilimage* or Thailand's *Chedi Chet Yot*. The placement of the inner shrine within its own walls hearkens back to the *gu*-like character or canon of the earlier Pagan temples. However, its rectangular dimensions places it beyond the pale of preexistent, established forms in this kingdom. Is this an indication of a 'natural' shift in a basic design consideration--the square--that is dominant in earlier temples, or evidence of the hetrodoxy the appears to have permeated this kingdom? Nonetheless, the rectangle appears to predominate in this temple and may indicate the variation or shift from the standard that is evident in a number of later monuments.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dhamma-Yazika

Pagan, 1196 CE

(PS)

The complex known as *Dhamma-Yazika* is unique not only in the architectural works of Pagan, but unique in the Buddhist world. Its distinctiveness is as a major *stupa*-shrine based upon the pentagon. As a later monument, it is second only in scale to the earlier *Shwe-Zigon* of Pagan and underscores the importance of the *Mettaya* (*Maitreya*) cult, particularly in the later dynastic periods.

The five faces, *nga-myet-hna*, of the *Dhamma-Yazika* supplanted the *lei-myet-hna* concept so prevalent in earlier Pagan, a solution to represent the *Manushi Buddhas*. It is a solution that seemed either to elude the Javanese builders, or was unacceptable to their aesthetic sensibility--i.e., the arrangement of the *Dhyani Buddhas* which they solved by placing *Vairochana* in the central position (giving this deity, by rite of placement, precedence) and the other four around him in at the cardinal points of the compass.[27] The orientation of the *Dhamma-Yazika* is east to west, a traditional placement--one of the *gandhakuti* (aka, 'perfumed chambers' or subsidiary shrines) being oriented to the east.

As far from conservative Buddhist tradition as the plan may be, much of the rest of the plan and elevation is quite traditional. Set upon three terraces, the profile indicates a close relationship with the *Shwe-Zigon* as well as the kinship with the *Borobudur*. The three terraces refer to the period of preparation in the life of Buddhist, prior to moving to the higher planes. In addition, it refers to perfection and to the three *Bodhisattvas* of Mercy. Upon the terraces is to be found a rather short base for the *anda*. Rather than being circular, one finds a decagon upon which sits numerous circular base moldings of the *anda*. Ten is a number of perfection and cosmic wisdom. It may refer to the ten powers of the *Buddha* (Indic: *Dashabhala*) or the ten directions--i.e., the four cardinal points, the four intercardinal points, the zenith and the nadir.

The five *gandhakuti* ("perfumed chambers") of the *Dhamma-Yazika* are typical of the *gu*-temples of the late period. It consists of an entrance, a small vestibule-hall and the sanctuary area (*garbha-griha*). Against the back wall is the shrine upon which the image is placed. The interiors are relatively well lit, both from the entrance as well as fenestrations at either side of the central axis (See: **Appendix A, Plate 137**).

En plan, the *gandhakuti* is in the form of a Tau cross ("T"). However, what is unique is the plan of the ensemble. Unlike the *Shwe-Zigon Pagoda* in which the *gandhakuti* are placed away from the base at the cardinal points (See: **Figure 129**), the *Dhamma-Yazika* integrates the chambers into the whole form. As is noted they are connected to and extend from the bottommost terrace. They are not satellites, as in the *gandhakuti* of *Shwe-Zigon Pagoda*, but, are extensions of the primary form, appendages of the main body. *En plan*, they tend to transform the pentagon into a five-pointed star form. Additionally, access to the terraces is not direct, but must be made via staircases perpendicular to the main staircases which are adjacent to the rear of the five *gandhakuti*. This arrangement directly involves the devotee with the *gandhakuti*.

From standpoint of design, the juxtaposition of the rectilinear chambers in conjunction with the pentagon and the circular form of the *anda* creates animated variations. This becomes more evident when considering the whole ensemble with its encircling wall (See: **Appendix A, Plate 138**).

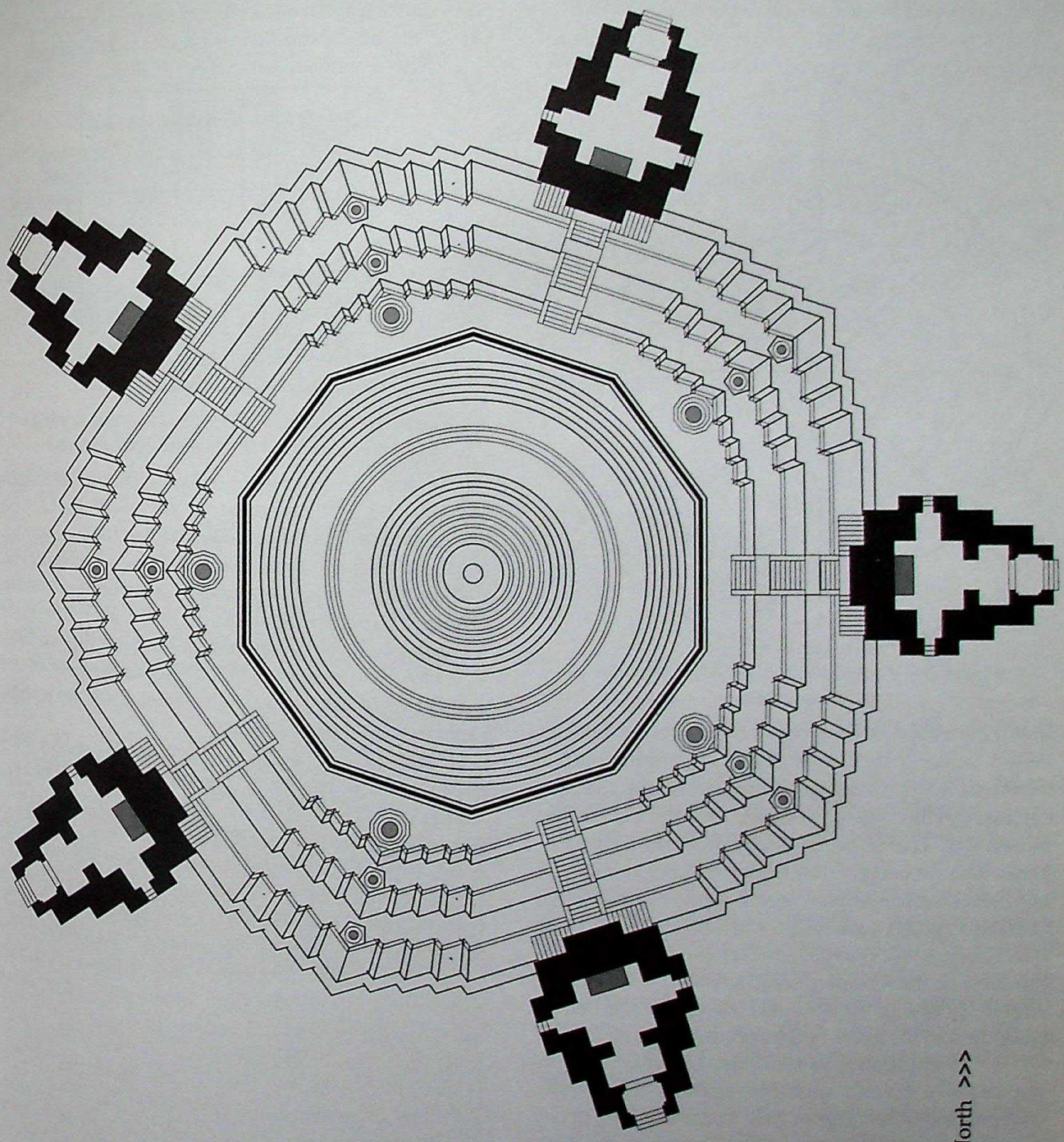
The *Dhamma-Yazika* is also seen as a concrete memorial to the four former *Buddhas* and the *Buddha-to-be* of the present age--i.e., *Kakusandha* (*Krakucchanda*), *Konagamanda* (*Kanakamuni*), *Kassapa* (*Kashyapa*), *Gotama* (*Shakyamuni*) and *Mettaya* (*Maitreya*).[28] The *Mahayana* tradition does recognize the *Manushi Buddhas*, but places them on a lesser rank than the *Dhyani Buddhas*.[29]

However, there is, nonetheless, a strong link to the *Pancha-Buddhas* of the *Mahayana* sect. The *Pancha-Buddhas*, the five *Celestial Buddhas* of the *Mahayana* tradition are regularly represented in corporeal form as well as symbolic. Sometimes referred to as the *Dhyani Buddhas* they are: *Vairochana* whose direction is east, *Ratnasambhava* whose direction is south, *Amitabha* whose direction is west, *Amoghasiddhi* whose direction is north and *Akshobhya* whose direction is the center. As in the *Swayambhunath Mahachaitya* of Kathmandu, the five are enshrined within their proper directional orientation and as such they point to and represent the *Adi-Buddha* in a massive three-dimensional *Mahayana* (*Vajrayana*) *mandala*. If they are not represented in this conformation, they are then set from left to right, thusly: *Vairochana, Ratnasambhava, Akshobhya, Amitabha* and *Amoghasiddhi*; or *Vairochana, (Vajradhara* as *Adi-*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 63 -- *Dhamma-Yazika*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Buddha), *Akshobhya*, *Ratnasambhava*, *Amitabha* and *Amoghasiddhi*.[30] In this latter conformation *Adi-Buddha* represents the zenith. It is to be noted that the *Pancha Buddhas* are not assembled pentagonally.

Iconographically, the transition appears to underline Buddhist cosmic thought. In Buddhist

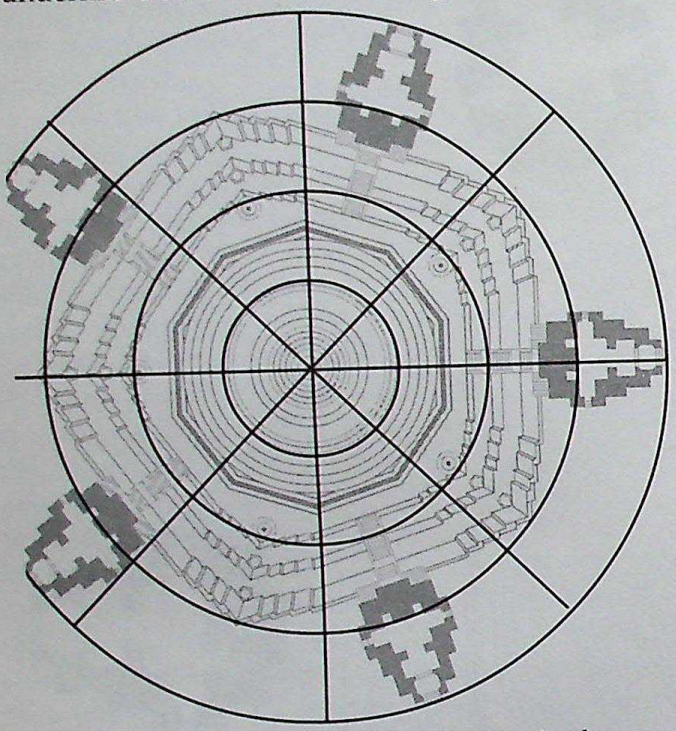


Figure 153: *Dhamma-Yazika*, indicating circular *Manduka Mandala*

iconography, as has been pointed out, the circle takes precedence over the square. The square represents the terrestrial world, the circle the celestial world, without beginning, without end a symbol of perpetual cosmic movement. Therefore, in the plan of the *Dhamma-Yazika* one proceeds from the terrestrial, rectilinear *gandhakuti* up to the pentagonal terraces, up further to the decagonal base of the *anda*, the latter form of which is circular *en plan*. What clearer iconic transition can there be from the terrestrial square to the celestial circle? Its design flow is related to the transition embodied in the West-Byzantine dome on squinch.

The application of a circular *Manduka Mandala* appears to be the only applicable solution to the whole *zeidi* ensemble (See: **Figure 153**). The first, outer, circle, of course, encompasses the whole ensemble. The second encircles the *zeidi's* lowest course, while the third circle includes the five larger *stupa* on the third terrace, The inner circle protects the majority of the *anda* and the crowning elements. Four of the *gandhakuti* are contained within one octad--one in the west northwest, one in the west southwest, one in the north northeast and one in the south southeast octads. One of the *gandhakuti* rests on the eastern median.

The rectilinear-*triratha* form of the *gandhakuti*

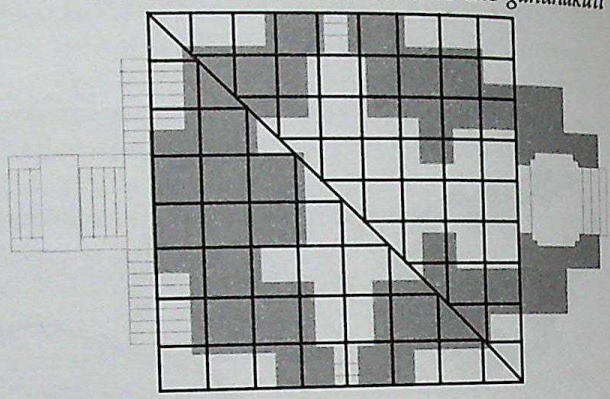


Figure 154: *Dhamma-Yazika*, *gandhakuti* indicating *Manduka Mandala* and *Paramashayika Mandala*

would lead one to assume that either a *Manduka Mandala* or a *Paramashayika Mandala* would be applicable to these chapels (See: **Figure 154**). However, it is seen that the *Brahmásthana* does not enfold the *garbha-griha*, but is contained by it in both *mandalas*. Similarly, the application of a circular *Manduka Mandala* produces similar anomalies (See: **Figure 155**). It, therefore, must be assumed that in the case of the *gandhakuti* of the *Dhamma-Yazika*, it finds its design basis in some other *mandala*.

Of course, the number five predominates. Not only related to the Five *Manushi Buddhas*--including *Maitreya*--or the *Pancha-Buddhas*, the number possesses cosmic significance. Five symbolizes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*) being: *shabda* (sound), *sparsha* (touch), *rupa* (form), *rasa* (flavor) & *gandha* (odor); the Five Failings or Weaknesses being: *ahmkara* (pride), *moha* (illusion), *lobha* (greed), *kama* (passion), *krodha* (anger); the Five Sense Particulars (Indic:

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

panchabhutas or *mahabhutas*) being: *akasha* (ether), *vayu* (air), *tejas* (fire), *apas* (water) & *prithivi* (earth); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra* being: *madya* (wine), *mamsa* (meat), *matsya* (fish), *mudra* (parched grain), *maithuna* (sexual congress); the five *skandhas* being: *rupa, vidana, sanini, sanskara, vidyana*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Again as an odd, masculine number five is assigned a masculine planet. It is visually represented by the pentagon or five-pointed star (pentagram). Ten, referring to the *stupika* on the bottom two terraces, represents perfection or completeness, success, and cosmic wisdom. It further represents unity emerging from multiplicity. It is the first compound number. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *Dashavataras*); the Ten Powers of *Buddha* (Indic: *Dashabhala*; Tib.: *sTobs-bCu*); the Tenfold Knowledge (Indic: *Dasha-nanam*); the Ten Directions (Tib.: *Phyogs-bCu*) which are the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; ten fingers and ten toes. Additionally, it is represented by the *Manipuraka Chakra*. Fifteen, referring to the above mentioned *stupika* plus the five larger forms on the upper pentagonal terrace, denotes cosmic completeness. It is exemplified in the fifteen world planes--six in *kamaloka*, five in *rupaloka* and four in *arupaloka*, and is the sum of the various directions in a nine *pada* magic square (See: "The *Mandala*" below). As a compound number it is associated with: the Sun, Mercury and Venus.

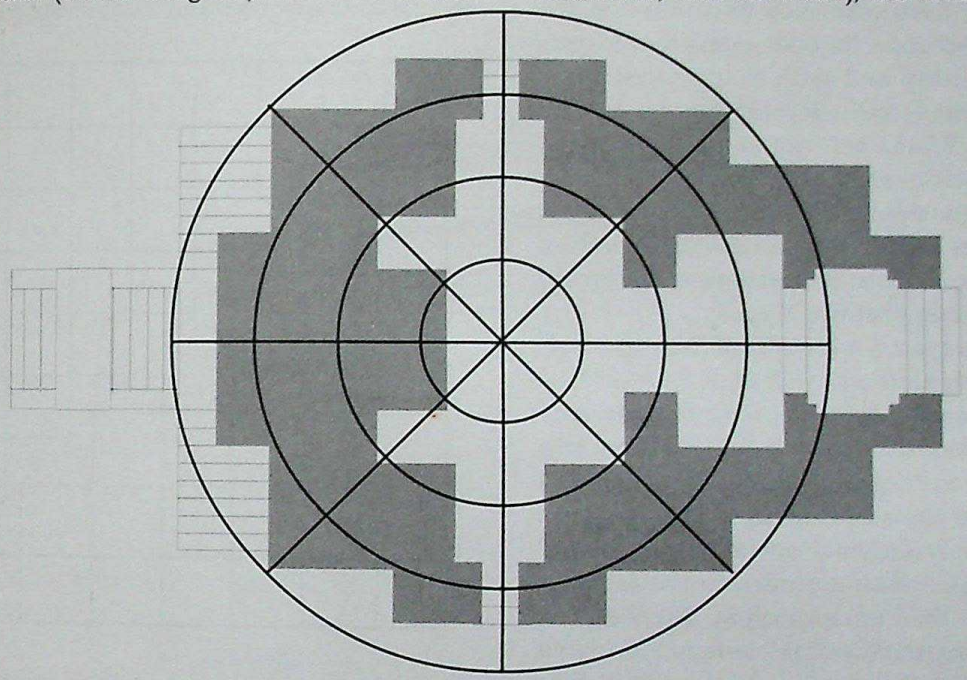


Figure 155: *Dhamma-Yazika, gandhakuti* indicating circular *Manduka Mandala*

Truly, the *Dhamma-Yazika* is a structure not only of potent cosmic significance, but also one of unique design concepts. Its solution to the presentation of the five Buddhas is inspired. It is an apt cap stone of the Pagan period.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Mingala-zeidi

Pagan, 1274-1284

(JD, MB)

The *Mingala-zeidi* is the last of the large, massive architectural undertakings of the Pagan kingdom. Begun in the year 1274 CE, by King Narathihapati (1255-1287), it was said by local seers that the completion of this *zeidi* would mark the collapse of the kingdom. Barely three years after its completion, the Pagan kingdom fell under the onslaught of the Mongols when they foolishly and with exaggerated pride refused to pay tribute to these great conquerors from the north. Alas, Burma was not to see the scope of architectural achievement, heights of aesthetic development or the sheer number of undertakings that is to be found in Pagan again. The *Mingala-zeidi* is, therefore, the cap stone and headstone of this grand and unique kingdom that was Pagan.

In many ways it is a traditional Paganese *zeidi*. It is surrounded by a low wall with steps at the cardinal points of the compass. The zeidi proper is made up of three terraces which decrease not only in square area but also slightly in height giving the appearance of greater height--a forced perspective that has been utilized previously. Oriented towards the cardinal points of the compass, there are four identical stairways leading up to the third terrace making this ensemble cross-axial. On the intercardinal corners are placed small *stupikas*, totaling twelve. Four *stupa*-forms mirroring the shape of the main *zeidi* but smaller in scale are placed at the corners of the third terrace. The central *stupa* rests upon an octagonal transitional base and possesses a bell-shaped *anda* with prominent moldings at the halfway point. A square *harmika*, normally found in the Sri Lankan prototype, is not present and the *chattravali* becomes the dominant feature of the upper section. Its wide base and five sections of moldings give the *anda* a substantial mien. The upper part, ending in a lotus bud finial, is a relatively modern addition (See: **Appendix A, Plate 139**).

There are three possible *mandala* applications. In both the *Manduka Mandala* and *Paramashayika Mandala*, the *Brahmásthana* protects the *anda* of the *zeidi* (See: **Figure 156**). Similarly, both the first and second terraces are enclosed in the outer ranks of *pada*, while the third falls within the second rank. A circular *Manduka Mandala*, likewise, produces a viable alternative (See: **Figure 157**).

Numbers here appear to be of some import. Three, referring to the three terraces, signifies perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea

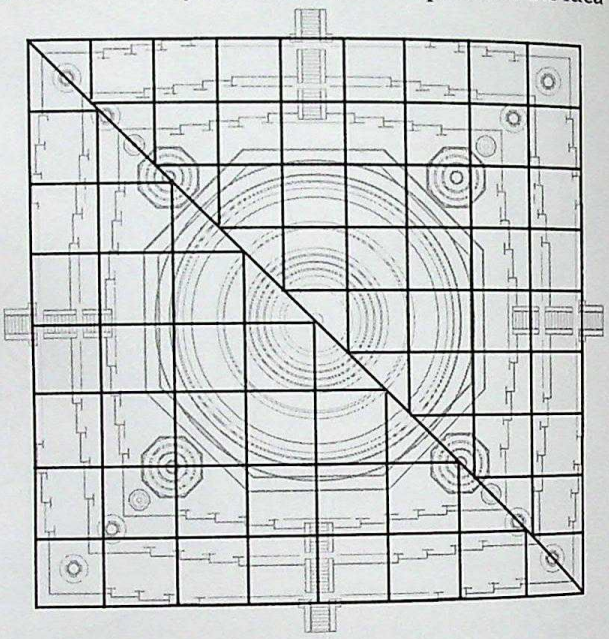


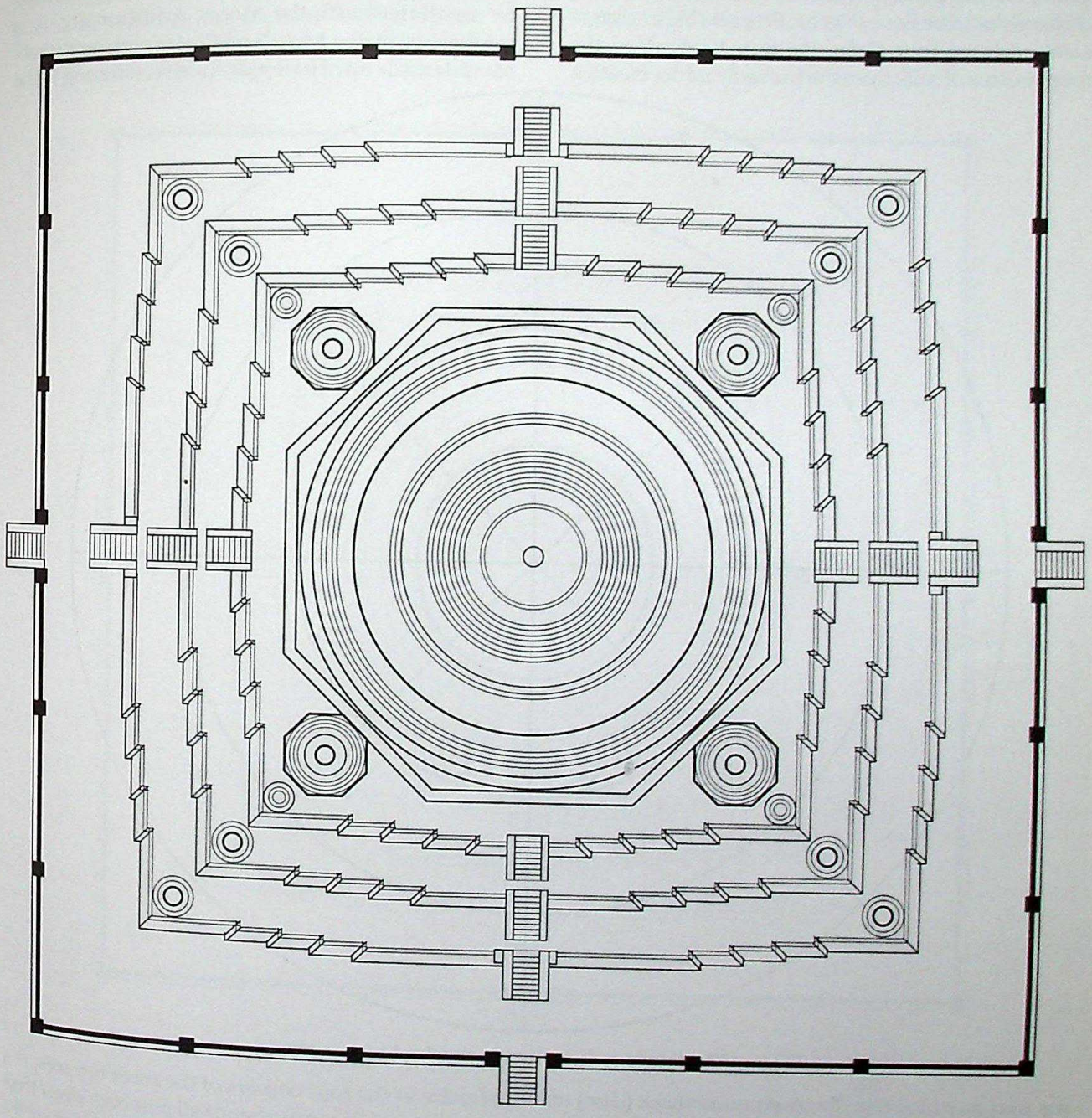
Figure 156: *Mingala-zeidi*, indicating *Manduka Mandala* and *Paramashayika Mandala*

principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* ; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Four, referring to the four smaller duplicates of the main *zeidi*, connotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect number of a

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 64 -- *Mingala-zeidi*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas*; the four streams of milk from the heavenly udder creating the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). As with the number two, the even number four is seen to be associated with the Moon. Additionally, it is symbolized by the *Muladhara Chakra* and the *Pechaka Mandala* made up of four *pada*. Twelve, referring to the

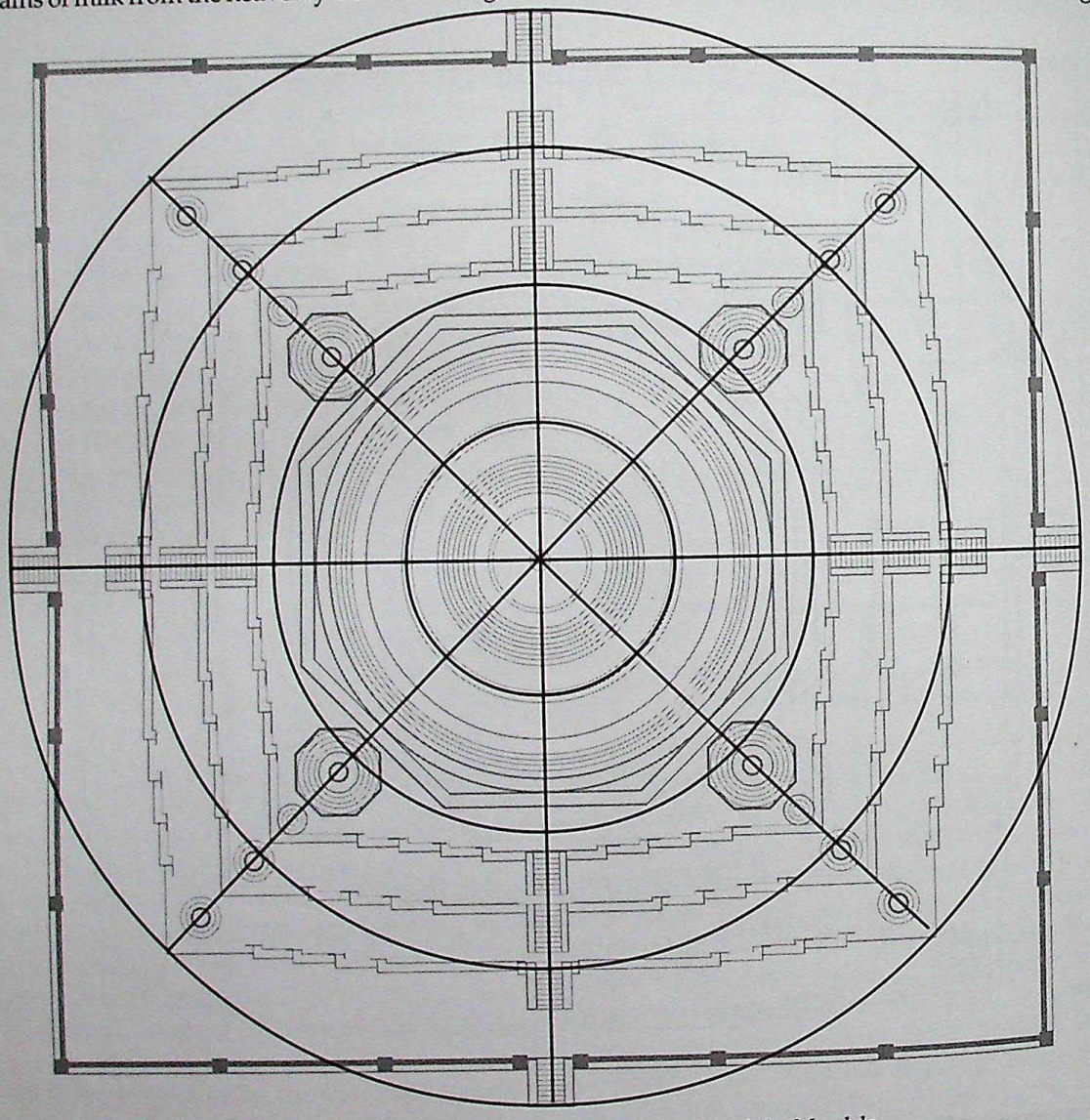


Figure 157: *Mingala-zeidi,* indicating circular *Manduka Mandala*

the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of *stupikas* at the four corners of the three terraces, is a cosmic number, comprehends all numbers lower than itself. It is exemplified in: The Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the twelve months, the twelve signs of the Zodiac; the twelve hours of the day; the twelve hours of the night; the duties of the *Chakravartin* (Pali:

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Mingala-zeidi (Concluded)

Cakkavatti-vatta); the Twelve Dependent Originations (Pali: *Paticcasamuppada*). Additionally, it is represented by the *Anahata Chakra*, as well as being associated with: the Sun the Moon and Jupiter.

The *Mingala-zeidi* provides a variation on the *zeidi* form and is an apt contrast to the *Shwe-Zigon Pagoda* as well as a return to the older forms and away from the *Dhamma-Yazika*. As the last great *stupa* of Pagan it provides a fitting tribute and an architectural eulogy.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Pentagonal Temple (*Pancha-Buddhas*), Pagan

a. 1175 CE

(JD II)

A curious temple, related to the pentagonal plan of the *Dhamma-Yazika* is the unnamed *Pentagonal Temple* (*Pancha Buddhas*).[31] Curious in that for a small temple--measuring slightly under nine meters from the center to the furthermost entrance (steps), the eastern entrance--it is not true, not equilateral. It has been noted in various sources that the large temples of Pagan are remarkably close to being "true" in their measurements and angles--not so with the Pentagonal Temple (See: **Appendix A, Plate 141**).

Each of the five porches extend approximately two-and-a-half meters from the exterior face of the cella's five sides, giving them some prominence. In nearly all the temples of Pagan the cella wall is prominent and easily identified. However, in the *Pentagonal Temple* (*Pancha Buddhas*) the porches take precedence and the *shikhara* dominated the whole in both size and scale. Entrances **1-3**[32] are approximately one meter wide, while entrances **4-5** are slightly over one-half meter wide. In addition the latter two entrances do not possess an external, access stairway. This anomaly may be due, in part, to their orientation. Entrance **1** indicates two internal steps--the second step at the entrance to the inner space. Entrances **2** & **3** also possess two steps, however, the first is within the entrance hall, while the second extends within the inner area. Entrances **4** & **5** have but one step at the entrance to the inner space. The shrine areas of **1-3** are wedge-shaped--i.e., they are wider at their outer limits and narrower at the altar end. The inner areas of **4** & **5** indicate walls that are nearly parallel, not wedge-shaped, however the shrine area reverts to approximately the same shape as **1-3**. The altar areas are in all five cases nearly identical in form, being double niches, the inner niche is framed. Each shrine space is not only connected to the exterior, but also one to the other via a narrow pentagonal hall which assumes the form of a *pradakshinapatha*.

Because of the shape, a pentagon, a square *mandala* is not applicable. However, a circular *Manduka Mandala* appears to fit quite nicely (See: **Figure 158**). The irregular dimensions of the whole does present some minor problems. The outer circle encompasses the whole. The entrances **1, 2, 3** & **5** all touch this outer circle, but entrance **4** does not. The second circle encases what would be normally considered as the central block. The third circle surrounds the *pradakshinapatha* and the inner circle protects the *stupa* and its crowning elements.

Although the form of the *shikhara* is not part of this study, it must be noted that *Pentagonal Temple* (*Pancha Buddhas*) possesses another parallel with the *Dhamma-Yazika* in that in the transition from the pentagon of the main block. Here in the *Pentagonal Temple* (*Pancha Buddhas*) there is an element consisting of a fifteen sided polygon from which the *anda* of the *stupa* soars.

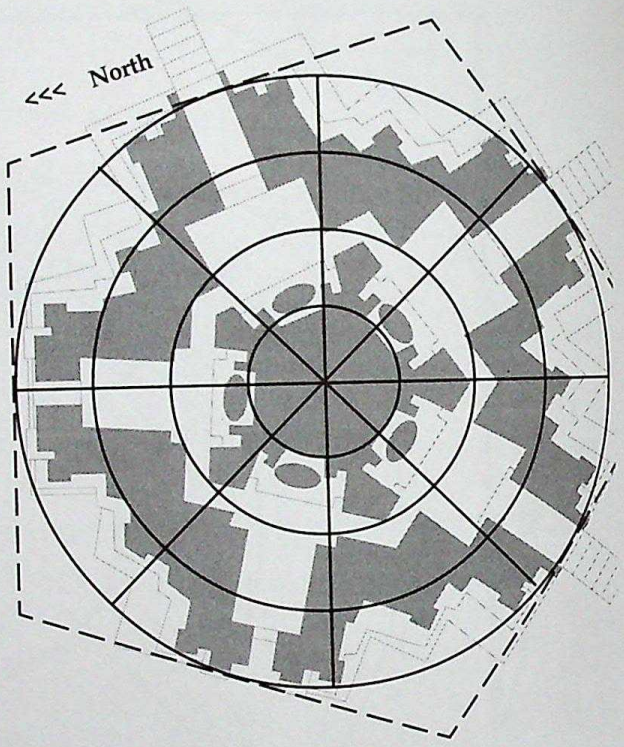


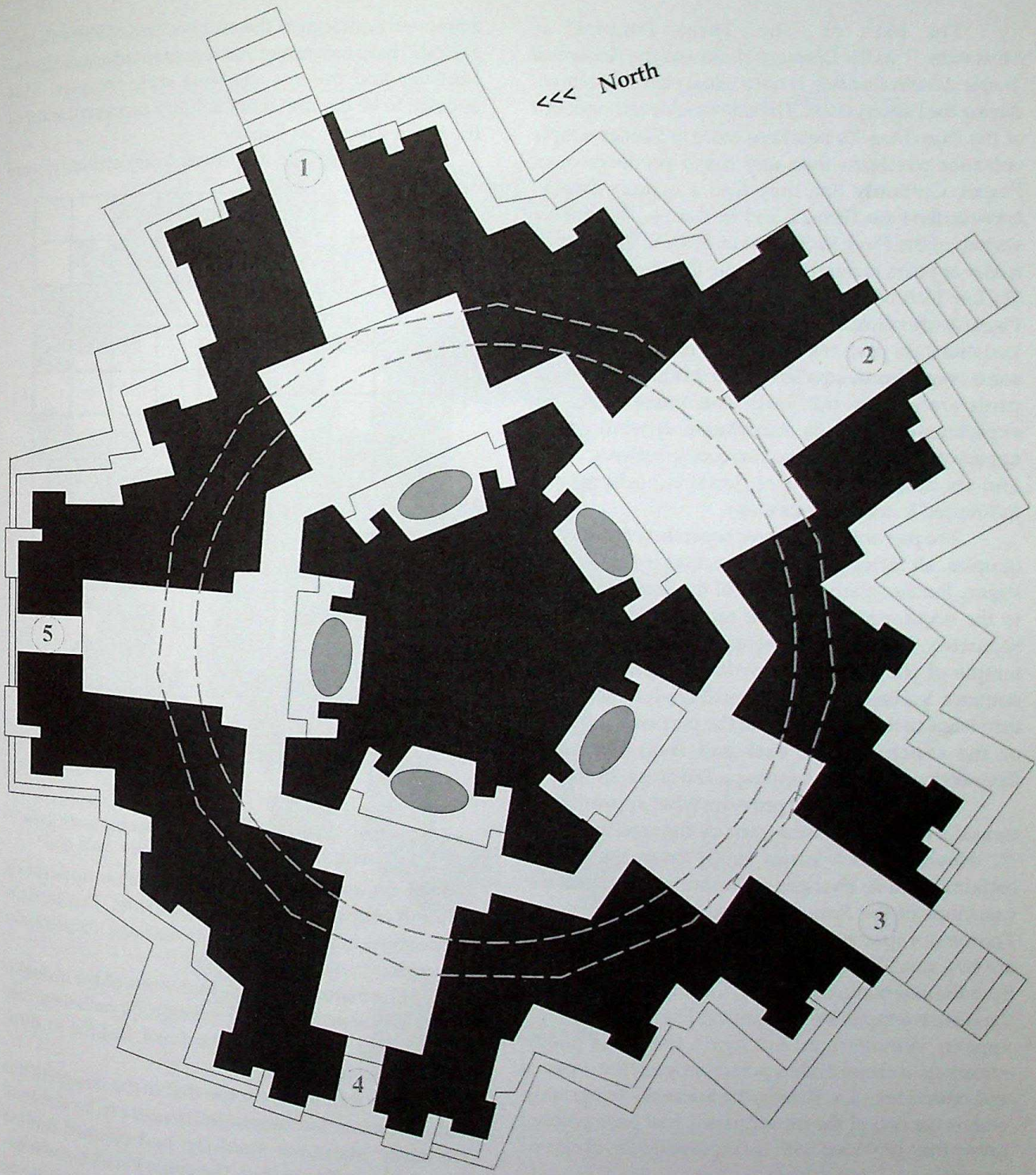
Figure 158: Pentagonal Temple (*Pancha-Buddhas*), indicating circular *Manduka Mandala* and pentagon

The major problem with the *Pentagonal Temple* (*Pancha Buddhas*) is that the dimensions are irregular.[33] Assuming that these dimensions to be correct, the problem then is why the asymmetry? The royal builders of Pagan were not unschooled in geometry or surveying. The major monuments are remarkably true in their dimensions, one to the other. Could this temple have been constructed by someone outside of the royal family, employing a neophyte in its design, layout and construction? What ever the answers to these conundrums, the *Pentagonal Temple* (*Pancha Buddhas*) is unique in its design and represents the host of smaller temples that dot the Pagan plane.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 65 -- Pentagonal Temple (*Pancha-Buddhas*)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Paya-Thon-Zu

Pagan, a. 1250 CE

(PS)

The plan of "The 'Three Temples' of *Minnanthu*,"[34] as the *Dhamma-Yazika* and the *Pentagonal Temple* (*Pancha Buddhas*, is not a usual plan for a temple during the Pagan period. The side-by-side arrangement of the *Paya-Thon-Zu* hearkens more to Khmer temple entrance pavilions than any major predecessor of Pagan. Certainly one may find a certain parallel between the *Paya-Thon-Zu* and the three separate major shrines of the *Preah Ko*, Roluos (a. 879 CE). In addition it also appears to nearly duplicate the *Phra Prang Sam Yot*, Lop Buri, of the Eighth Century. The last quarter of Pagan's development had witnessed numerous variations on past, tried and true plans and forms--some bigger, some smaller--yet in this later period the proliferation of not only the variations, but experimental forms is remarkable. It would seem apparent that the economic intercourse between Pagan and its neighbors and regional kingdoms had influenced it in numerous ways.

The presentation of three separate yet connected temples, all facing the same direction is unusual for Pagan. Further, the orientation of the *Paya-Thon-Zu* is to the north, rather than the more traditional east. Separately, each unit represents the typical small *gu*-temple of the late Pagan period, consisting of an entrance leading to a small vestibule-hall, which in turn leads to the sanctuary. On the perpendicular axis of the sanctuary are east and west entrances (connecting passages) forming a Tau cross, *en plan*.

Primarily, the plan provides what appears to be three similar temples connected by the crossing of the "T." However, each varies subtly from the other--certainly, these changes are more subtle than the variations of the *Pentagonal Temple* (*Pancha Buddha*). The interior spaces are not identical, but similar--there are two small spaces between the three, one entered from the exterior north façade, the other entered from the eastern temple--on the interior. The north façade(s) appears symmetrical, but again there are subtle variations and one finds a portal between the western and central temples. Finally, the internal iconography, with exception of the three images, had been painted rather than provided with the representation of carved images.

Within the sanctuary of each, against the south wall are images on pedestals. The three images represent the *hpaya-thon-zu* ("the Three Sacred Lords"), a innovative design in the architecture of Pagan's late period. There are numerous representations of the *lei-myet-hna* and the *nga-myet-hna* style temples. This appears to be the first if not solitary representation of the *hpaya-thon-zu* in Pagan.

The whole--i.e., the three (one) structures are

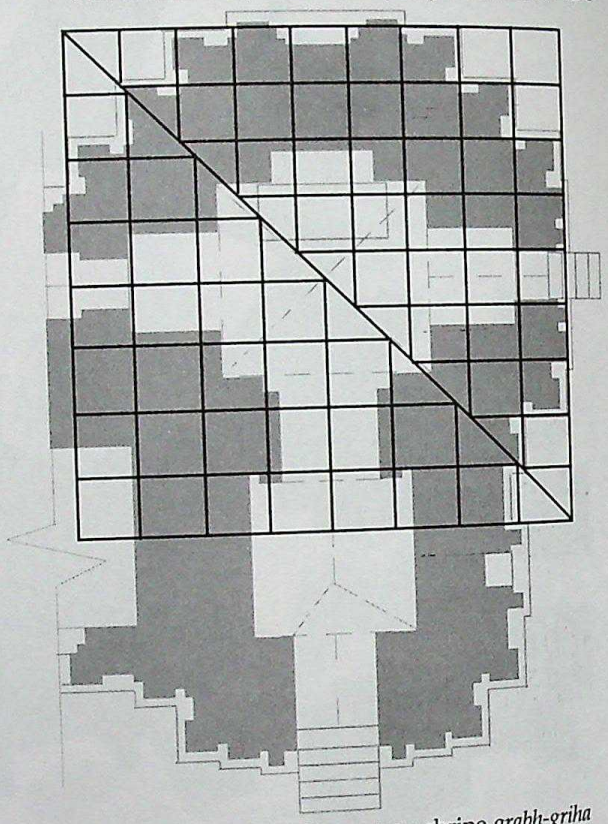


Figure 159: *Paya-Thon-Zu* western shrine *grabh-griha* indicating sixty-fourand eighty-one *pada* grid

placed on a rather spacious platform apparently without extraneous ensemble elements. This tends to concentrate attention on the structure(s), focusing our thoughts.

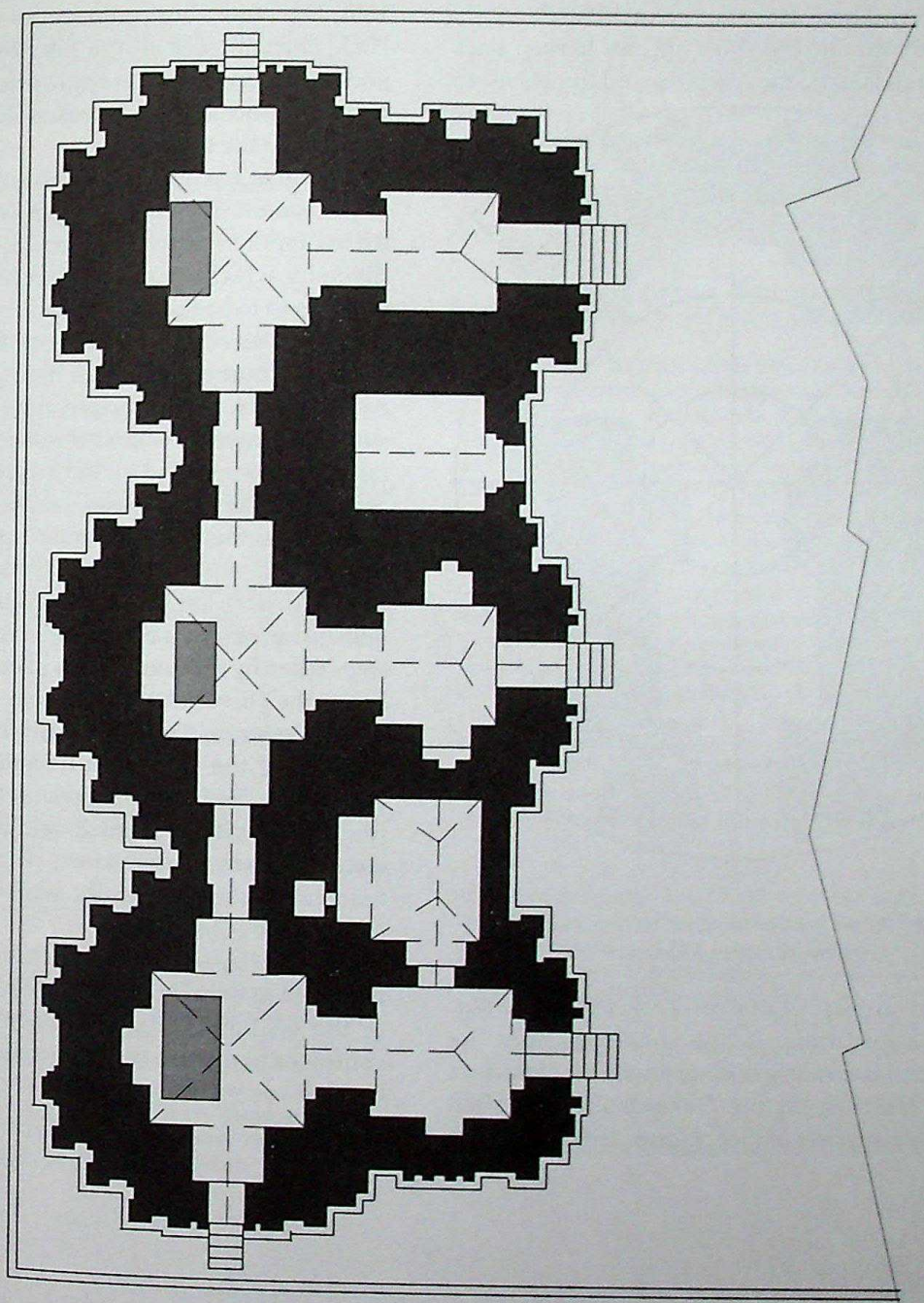
The manner of the presentation of the images is not clear due to their poor condition. Nonetheless, they doubtlessly represented the Lord *Buddha* in three different *mudras*.

It is thought by some that in the design of this temple certain *Mahayanist* influences can be detected. Certainly *Mahayana Buddhism* had enjoyed limited popularity in Pagan, but *Theravada Buddhism* was by-an-large the dominant religion. Although a tripartite temple is most unusual, the concept of three finds fruitful soil within this tradition. The three temples

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 66 -- *Paya-Thon-Zu*



North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and their attendant three *Buddha* images may refer to the Three Refuges--i.e., the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community (Indic: *sangha*). There are other possibilities.[35]

Individually, the three shrines harken back to earlier models--e.g., the *Naga-Yon* and the *Myinkaba Kubyauk-Nge*--in the presentation of a sanctuary (*garbha-griha*) and a vestibule. If one considers only the sanctuary area, a *mandala* of sixty-four *pada* (*Manduka Mandala*) or one of eighty-one (*Paramashayika Mandala*) would appear applicable (See: **Figure 159**). But, there appears minor problems. However, if the whole shrine is considered, then a circular *Manduka Mandala* may be applicable, but presents some concerns (See: **Figure 160**). The outer ring contains the whole. The second circle encompasses all the interior spaces. The third and fourth rings enclose appropriately less space. It is noted that the east-west median falls on the line at the entrance to the sanctuary.

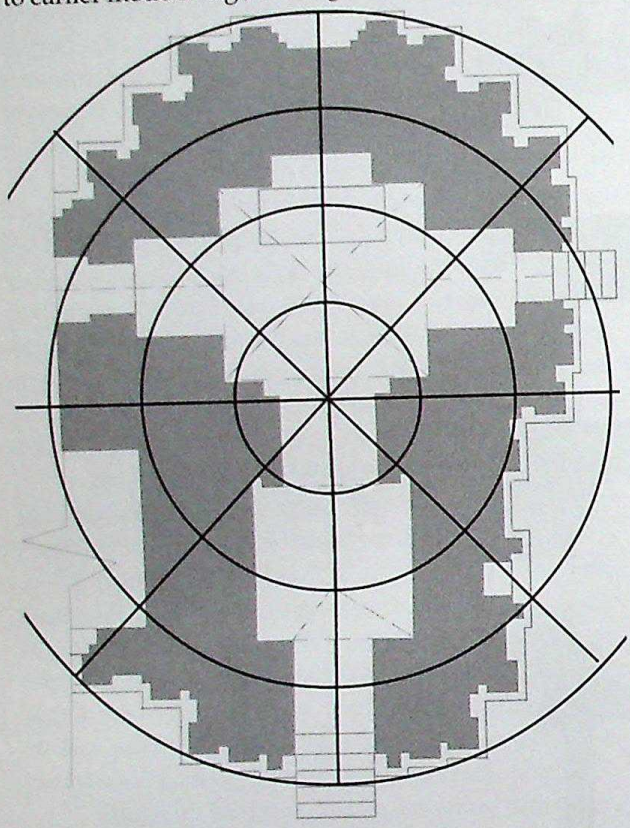


Figure 160: *Paya-Thon-Zu* western shrine indicating circular *Manduka Mandala*

Three is a number which is quite evident in the *Paya-Thon-Zu*. Three denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; the Three Regions or the Three Worlds (Indic: *triloka*) being: *arupadhatu, rupadhatu, kamadhatu*; the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*).

The *Paya-Thon-Zu* is a charming and beautiful temple in its own right, a fitting construction at the end of the brilliance that was Pagan. The fact that it continues to present certain conundrums is part of its charm.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Pagan, Burma)

1 PS, p. 7; JA, pp. 131-134; GC, pp 155-158, 166-168.

2 PS, pp. 34 & 57. The *nats* are local animistic spirits which are popular even in Thailand, although worshipped in a different form.

3 Ibid., p. 11.

4 Merit, a concept within *Theravada* in which an individual achieves a spiritual rank by performing various religious acts, the combination of which accrue to aid his or her passage to nirvana. It is parallel to the concept of works within the Judeo-Christian faith.

5 PS, p. 39.

6 Today, on the other hand there seems to be some animosity against the Hindus of Myanmar by the Buddhist majority.

7 Both the *Lemyethna* and the *Bebe Temple* indicate a strong Indian influence. Additionally, the *Lemyethna* with its four portals later is to be seen in a variation in the *Ananda*. The *Bebe Temple*, a basic *gu*-type finds numerous later variations.

8 For example: the *Shiva Temple* no. 2, Polonnaruwa and the Mahaballipurnam beach temple.

9 AS, p. 164; and PS, p. 52.

10 It is to be noted that the termination of this temple is a *stupa*, or a *stupa*-like form, rather than the *shikhara* form utilized frequently in later temples of Pagan.

11 It is to be noted that the vaulting of this *pradakshinapatha* is a barrel vault, not a half-corbel or a half-barrel vault that were more frequently utilized. This certainly indicates that the Paganese were familiar with the barrel vault, and the fact that it is utilized only for minor architectural spaces would seem to indicate their preference for smaller spaces rather than large, unencumbered internal space that an extended barrel vault could have provided.

12 PS, p. 57.

13 *Ibid.*

14 JDII, p. 12.

15 MB, p. 203, states that the Ananda was consecrated in 1091 CE.

16 *Ibid.*

17 JD II, . p. 14. This is doubtlessly a ceremonial entrance as it faces the royal palace, however, due to the plan of the whole, a cross-axial design, to say that the *Ananda* is oriented to the west seems to stretch the point.

18 Cf. n. 30, "Introduction."

19 PS, p. 85.

20 *Ibid.*, pp. 85-86.

21 PS, pp. 87-90, supposes that the sealing of the inner *pradakshinapatha* was politically motivated and may have been influenced by Sri Lanka. However, there are a number of temples, in particular the *Vatadage*, Polonnaruwa, which indicate the possibility of a double *pradakshinapatha*. It is true that Sri Lanka possessed considerable influence upon Pagan's *Theravada* faith, but to assume that distant kingdom also had architectural or political power of sufficient strength to force the mutilation of this massive structure is questionable.

22 *Ibid.*, p. 90.

23 This seems to be a rather awkward solution to the problem of the presentation of five figures. Pagan was, in a very short time able to develop a unique solution to this dilemma.

24 PS, p. 88.

25 PR refers to this extension as an "extra plinth.," p. 184. However it is more than a plinth. It is an extra storey which contains another shrine area, although not of the same importance to the whole as the sanctuary level of the *Dhamma-Yan-Gyi*. The *Dhamma-Yan-Gyi* and the Gawdaw-Palin, both exhibit a variation in the utilization of receding blacks or steps, which is of importance. They are not steps in the sense of the stepped terraced of Borobudur or the Bakong and subsequent Khmer mounts. This is essentially a different solution.

26 PS, p. 106.

27 Even this problem was not faced or easily solved by the builders of either *Swayambhunath* or *Bodhanatha* of Kathmandu and Bodh, Nepal.

28 PS, p. 22, these are the five *Buddhas* of the *Bhadrakalpa* as they were referred to within the Myanmar *Theravada* (Pali) tradition.

29 The *Dhyani Buddhas* (Celestial *Buddhas*, *Jinas* or Conquerors) are: *Akshobhya, Amitabha, Amoghasiddhi, Ratnasambhava* and *Vairochana* who were created by the *Adi-Buddha* before human time was established. The *Dhyani Bodhisattvas*, their emanations (the *Dhyani Buddhas*) were responsible for creation, it is under the *Dhyani Bodhisattvas* that the *Manushi Buddhas* appear.

30 BO, pp. 126-127 and 198-199.

31 JD II merely refers to this temple as "the pentagonal temple located near the *Mingala-zeidi stupa*," p. 22. He further asserts that this form solved the problem of the equal placement of the *Pancha Buddhas* that had been an unsolved problem of the Javanese builders in which the *Buddha Vairochana* had been given preeminence.

32 The bold case numerals refer to those found in **Plate 65**.

33 The computer drawn plan (**Plate 65**) is taken from JD, p. 22. The generation of the plan posed special problems in that virtually all the dimensions, sides and angles were all unique.1

34 PS, p. 129.

35 Within the *Therevada* tradition there are a plethora of groups of three--e.g., *Kusala-mula* (roots of good action): *Alobha* (generosity), *Adosa* (love) & *Amoha* (wisdom); *Tipitaka* (the three baskets): *Vinaya-pitaka* (the basket of discipline), *Sutta-pitaka* (the basket of discourse) & *Abhidhamma-pitaka* (the basket of sublime doctrine); *Dvara* (doors of action): *Khaya-dvara* (the body as the door of action), *Vachi-dvara* (the door of speech as action) & *Mano-dvara* (the mind as a door of action); *Buddha-chariya* (the *Buddha's* conduct or services); *Buddha-ovada* (the *Buddha's* admonitions); or *Bhava* (spheres of existence): *Kama-bhava* (the sense sphere), *Rupa-bhava* (the form sphere) & *Arupa-bhava* (the formless sphere). There are over 70 groups of three recognized in the *Therevada* tradition, PRP, pp. 98-133.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Thailand

(Lanna Tai, Sukhothai, Ayutthaya, Rattanakosin)

Chedi Wat Kukut, Lamphun
Chedi Wat Chang Lom, Si Satchanalai
Chedi Wat Mahathat, Sukhothai
Wat Phra Si Rattana Mahathat, Ayutthaya
Wat Phra Ram, Ayutthaya
Wat Ratchaburana, Ayutthaya
Wat Chedi Chet Yot, Chiang Mai
Wat Phra Si Sanphet, Ayutthaya
Chedi Wat Phukhao Thong, Ayutthaya
Wat Chai Watthanaram, Ayutthaya
Wat Choeng Tha, Ayutthaya
Wat Phra Chetupon, Bangkok
Lohaprasad, *Wat Theptidaram*, Bangkok

The Thais like the Melayu to the south are relative newcomers to the Indochinese peninsula. However, these vigorous people have left and still leave an indelible mark on the cultures of the region.

The Thais were to benefit from their geographic location in a number of significant ways. The riverine locale of the major kingdoms--e.g., Lanna Tai, Sukhothai, Ayutthaya and Rattanakosin (Bangkok)--fostered the rice bowl of Asia and their wealth, particularly along the areas adjacent to the Chaophraya River system. This system was so dependable that the early Thai had no need to attempt the hydrological engineering practices that the Khmers and the Paganese had devised. These Thai kingdoms also benefited from a number of natural barriers--to the north and east lay the great Mekong River, to the west a mountain range with few usable passes, and, of course the Gulf of Siam to the south. In a purely political fashion, in the nineteenth centuries, Thailand benefited from the territorial expansion of the British and French, being between French Indochina on the east and British Burma and the Malay States on the west and east. Both colonizers coveted the wealth of "Siam," but neither could or would allow the other access to this rich kingdom. Hence, it remained un-colonized and was able to steer a precarious course between the two colonial super-powers.[1]

Whereas, the Thais flourished due to the fortunate choice of locale, they have suffered from the neglect of a number of art historians who either did not fully understand their brilliant contributions or misinterpreted the influences upon their culture. Particularly, the Ayutthaya period has been denigrated as slavish copiers of either the Sukhothai or the Khmers and the Rattanakosin period is even more summarily dismissed.[2] Upon viewing Thai temple architecture, whether those examples of the Sukhothai, Ayutthaya or Rattanakosin periods, one is immediately impressed with their unique, often colorful forms as well as the profusion of temples in virtually every city. Certainly, their elevations are quite distinctive. No one denies the influences upon Thai architecture from the surrounding cultures--i.e., India, China, the Khmer and Burma. Yet, thankfully, there are those who, of recent memory, do recognize the unique cultural contributions of the Thai.[3]

Thailand practices *Theravada Buddhism* with strong ties with Sri Lanka. It is relatively pure with an overlay of indigenous animism--similar to the veneration of the *Nats* in Burma. Merit plays an

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

important role in Thailand, both in the past and in the present. A great number of important *wats* throughout Thailand are designated as Royal *Wats*. These *wats* have receive(d) various amounts of royal patronage throughout the years. In the past *Wat Mahathat*, Sukhothai; *Wats Chedi Luang, Phrathat Doi Suthep* and *Chedi Chet Yot*, Chiang Mai; the *Wats Phra Si Rattana Mahathat, Phra Ram, Ratchaburana* and *Phra Si Sanphet* of Ayutthaya, all benefitted from royal patronage as acts of merit. Important among the Rattanakosin Royal *Wats* are the *Wat Phra Kaew, Wat Chetuphon, Wat Sraket, Wat Suthat, Wat Mahathat, Wat Benchamabophit* and *Wat Rajabopitr* all of Bangkok. Architecturally, where the Thai excelled is in the development of unique temple compounds[4] and the Thai *chedi* (*stupa*) which in the Sukhothai, Ayutthaya and Rattanakosin periods saw significant changes from the Sri Lankan standard *stupa* form. In addition, preexistent forms were utilized, not merely copying, but adapting and amalgamating these forms to suit their own particular purpose and taste.[5]

Politically, Thailand has consisted of a number of kingdoms. Their existence has been in some cases concurrent and in other cases consecutive. Their populace had been Mon, Srivijayan, Khmer and Thai (Dai)--the later and presently predominant ethnic group. At one point of their history, their empire included much of present day Laos, Kambuja, Burma (Myanmar) and the northern states of Malaysia (Perlis, Kedah and Kelantan). From the first kingdoms, the Thais traded goods and emissaries with the giant to the north, the Imperial Court of China. They were ardent allies and trading partners of the Dutch, French, Chinese, Indian States, England and France. They had relations with the Courts of France as early as Louis XIV as well as with Pope Clement IX. By the eighteenth century their wealth was fabled and coveted by the rapacious courts of Europe. Numerous apocryphal stories grew of the wealth of the Thai Court(s) which were coupled with what the Europeans saw as uncivilized behavior--the least of which are the apocryphal tales of one: Anna Leonowens

The kings of the four major Thai kingdoms had enjoyed an exalted position--in the two earliest kingdoms it was similar to the *devaraj* of the Khmers.[6] His rule was absolute until the 1930's and, until then, his pronouncements bore the force of law. One even finds queens regnant in Thai history unlike other cultures of the region which were strictly patristic.[7] Luckily Thailand possessed a goodly number of very competent kings and a few truly great monarchs--Ramkamhaeng the Great, Naresuan the Great, Narai the Great and Chulalongkorn the Beloved Great. Of course they had their share of miserable monarchs as well.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chedi Wat Kukut (Wat Chamatewi)

Lamphun, 1218 CE

(MB, JA, SV)

Within Thai aesthetic development, the *chedi* (Ind.: *chaitya*) becomes one of the most distinctive forms of this culture. Even at an early stage in the development of Thai culture, the *chedi* had assumed some significant variations. The *Chedi Wat Kukut*,[8] also known as *Chedi Wat Chamatewi*, which is considered to be one of the last significant Dvaravati works, indicates not only northern Mon but also Khmer influence in the detailing. Its form is far-a-field from the tradition established in India or Sri Lanka. However, now truncated, the missing top most probably extended the *chedi* proper upward similar to the later *Chedi Wat Si Liem*, which is often referred to as a replica of the former (See: **Appendix A, Plate 143**).[9] Constructed first by the Haripunchai (Haripunjaya) king, Athitaraja, circa 1150, it was rebuilt in 1218 after an earthquake. It is seen to be closely related in form to Sri Lanka's *Satmahal* (*Satmahal Prasat*), Polonnaruwa, and certainly the form was copied in the construction of the *Chedi Wat Phaya Wat* at Nan.[10]

The *Chedi Wat Kukut* is square, cross-axial, and raises from a stepped base to five receding storeys. Cross-axiality is a form that has been utilized within Thailand for centuries (See: **Appendix A, Plate 143**). Each of these storeys hold twelve niches, three on each face, in which are to be found images of the standing Lord *Buddha*, right hand probably in the *abhaya mudra* and left at ease, palm against thigh. Above the fifth storey are a series of receding, strongly horizontal bands, seven in number, the remainder of the *chedi* no longer exists. However, one may conjecture that the remaining element(s) included a square *anda*, a banded *harmika*, and a *chattravali*.

The arrangement of the recesses with their enclosed *Buddha* images are such as to cause one to suspect that the design was based upon neither the *Manduka Mandala* nor the *Paramashayika Mandala* (See: **Figure 161**). It is to be seen that only in the *Manduka Mandala* does the upper portion, the *chedi*, rests solely within the *Brahmásthana*, but the lower levels present major problems as is also to be seen the *Paramashayika Mandala*. The application of a circular *Manduka Mandala* appears to be a more viable choice (See: **Figure 162**). The outer circle of the *Manduka Mandala* encloses all of the upper levels. The second ring passes through and/or encloses all the Buddha images of the first level and the upper four levels, while the third ring totally encircles the upper three levels. The inner band protects the fifth level and the towering *chattravali*. There may be and alternate *mandala* plan. The design of the first level falls comfortably within a forty-nine *pada* grid, the *Sthandila Mandala* (See: **Figure 163**). This would appear to fly in the face of established

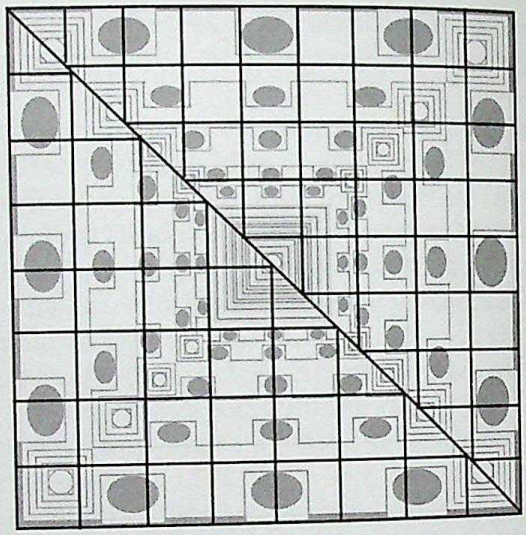


Figure 161: *Chedi Wat Kukut*, indicating a *Manduka Mandala* and a *Paramashayika Mandala*

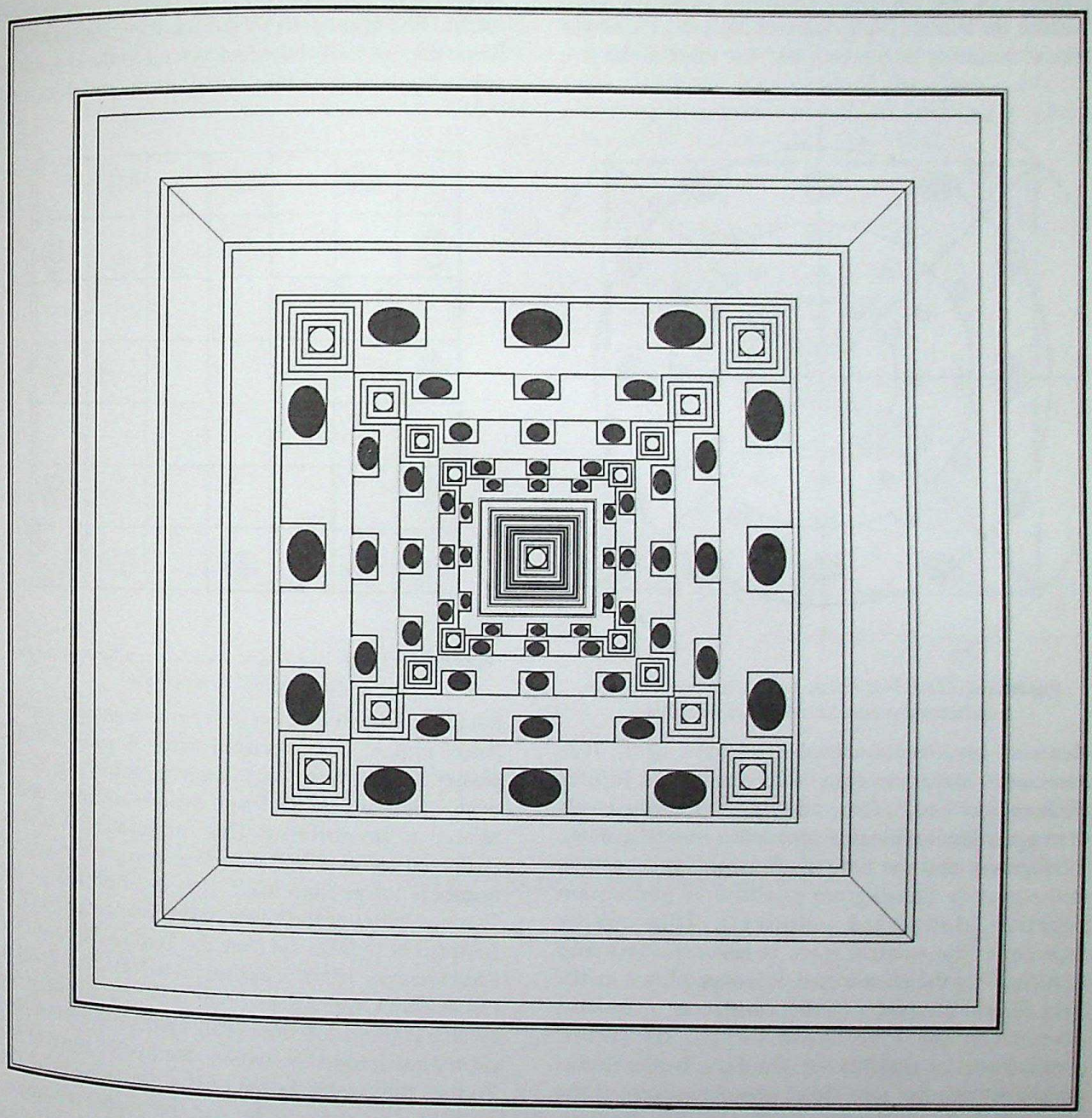
design principles. However, it is to be noted that in the *Sthandila Mandala* the images of the first level and the corner *stupikas* all fall within the outer rank of *pada*. The second rank holds the images of the second and third levels, while the third rank holds the fourth and fifth. The *chattravali* is protected by the inner *pada*.

Numerologically, there are four numerals which bear consideration: three, five, twelve and sixty. Three, referring to the three figures on the four faces, denotes perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 67 -- *Chedi Wat Kukut*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

avatar; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five

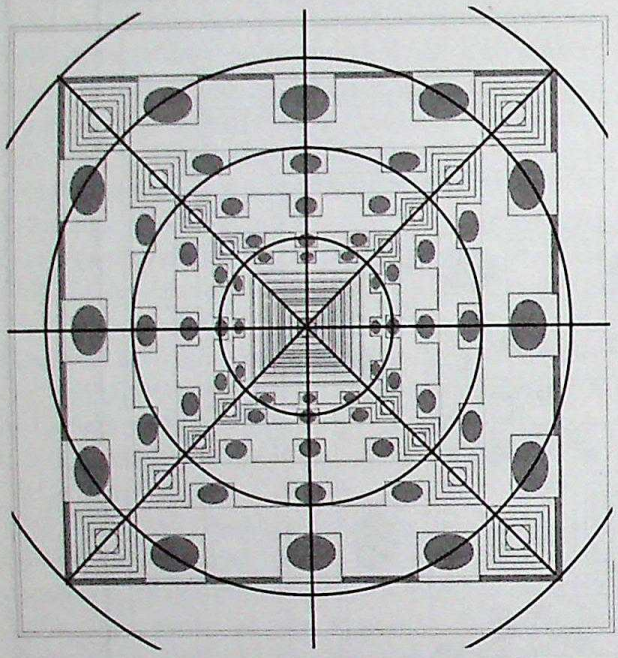


Figure 162: *Chedi Wat Kukut*, upper terracewith *chedi*, indicating a circular *Manduka Mandala*

elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Five, referring to the five levels of images; denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: Ye-*shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and

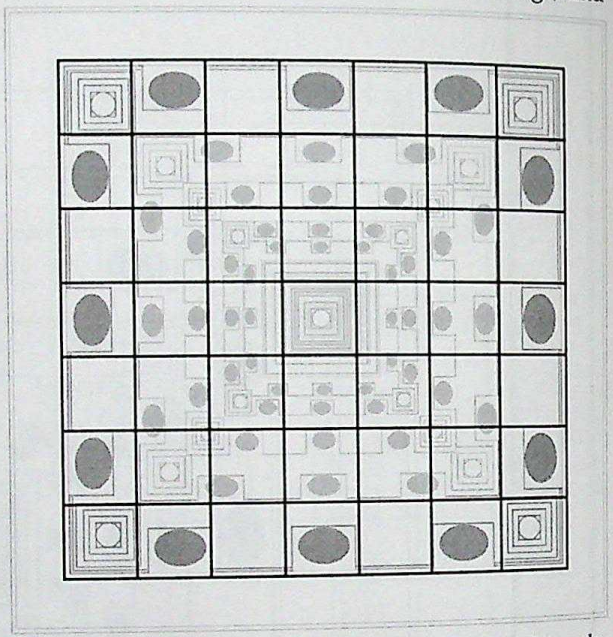


Figure 163: *Chedi Wat Kukut*, indicating a forty-nine *pada* grid applied to level one

the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Twelve, referring to the twelve figures on each level, denotes sacrifice and is related to immortality. This numeral is: a cosmic number 12 x 30 = 360^0 as well as comprehending all numbers lower than itself. It is exemplified in: the Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the Twelve Duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *paticcasamuppada*); the Twelve Volitional Actions (Pali: *kamma*); the *Barahmasa* poetry being based on twelve; the twelve signs of the Zodiac; the twelve hours of the day as well as the twelve hours of the night; and the twelve months of the solar year. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). Additionally, it represents the *Anahata Chakra*. Finally, sixty represented by the sixty images on the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

five levels, refers to a complete cycle of time and is associated with the planet Venus (*Shukra*). It is exemplified in: the believed cycle of Jupiter (sixty years), the sixty elements which constitute the way through the three worlds, the make up of a *stupa*, and the sixty levels of human development.[11]

A representation of mount Meru, the *Chedi Wat Kukut*, fits comfortably within the standard of the Thai *chedi* in that verticality is emphasized. Certainly other civilizations of the region had developed their own concept of the "high place"--e.g., *Borobudur, Ta Keo*, the *Ananda*, etc.--but in most, if not all of these cases the vertical assent of the forms were far more gradual than the dramatic elevation of the Thai *chedi*. The subsequent development achieves even greater verticality than the *Chedi Wat Kukut*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chedi Wat Chang Lom

Si Satchanalai, c. 1275-1300 CE[12]

(SV)

The *Chedi Wat Chang Lom*, generally conceded as being constructed during the reign of Ramkamhaeng , The Great, is a remarkable example of the fusion of styles and forms.[13] It is said that King Ramkamhaeng had unearthed a number of relics at Chalieng. He had not been destroyed by the gods by this audacious act and later placed these holy objects in a new *chedi* at *Wat Chang Lom*.

The *Chedi Wat Chang Lom* is enclosed within a girdle wall. There is but one, rather wide and grand staircase which leads from the ground level, to the first level or terrace. From this level rises a square plinth which is surrounded by thirty-nine elephant images. These elephants appear to guard the upper reached of the *chedi*. There are four massive creatures at the corners, the intercardinal points, while nine smaller elephants stand at the north, west and south faced of the plinth. The east face possesses only eight, the ninth creature has been displaced by the stair which leads to the second level. From the second level rises a second square plinth with twenty enshrined *Buddha* images--five on each face, the central image is enshrined within a niche that is somewhat larger than the other four of each face. Upon this block is a low, transitional, octagonal plinth which supports a second octagonal step. These two octagons give way to the circular moldings which upholds the bell-shaped--Sri Lankan style--*anda*. Here the *anda*, set upon three massive, receding moldings begins to approach the form/shape that later becomes the hallmark of the Thai *chedi* (See; **Appendix I, Figure 146, 150 & 151**).[14] The *harmika*, likewise, is smaller in scale than that of the *Chedi Wat Mahathat*, Nakorn Si Thammarat, and the tall *chattravali* seems to dominate the upward thrust of the whole form.

The application of a *mandala* to the design of the *Chedi Wat Chang Lom* presents numerous possibilities. When a grid of either sixty-four or eighty-one pada--i.e., a *Manduka Mandala* or *Paramashayika Mandala*--is applied to the elephant images and the subsequent levels, the *Brahmásthana* in both cases encloses the *chedi* proper (See: **Figure 164**). Furthermore, the elephant images fall within the outer rank of *pada* and the *Buddha* images rest within the realm of the secondary deities, again in both cases. A circular *Manduka Mandala* is applied to the same area (See: **Figure 165**). The outer circle encompasses the guardian elephants and all areas above. The second ring encircles essentially the second terrace. The third circle encompasses the third terrace and the *Buddha* images. The inner ring guards the *chedi* proper. A *mandala* of one-hundred-twenty-one *pada* can also be seen to apply, using the guardian elephants as its basis (See: **Figure 166**). In this, the *Sthaniya Mandala*, each

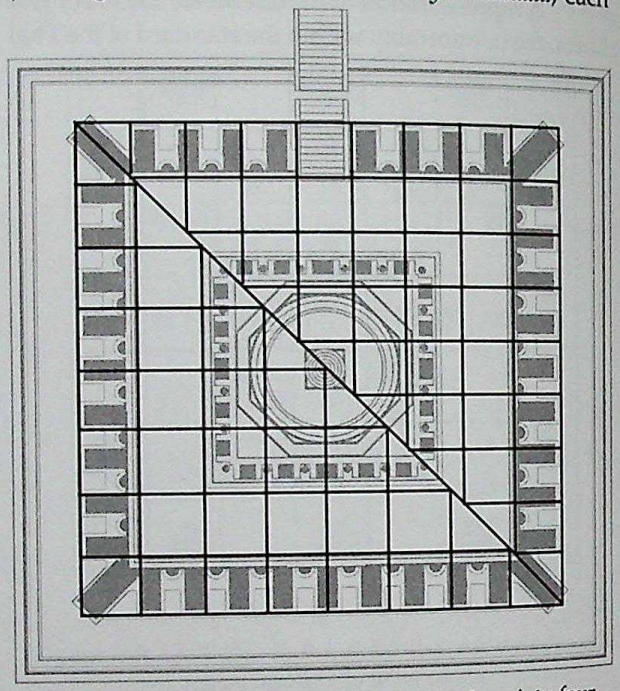


Figure 164: *Chedi Wat Chang Lom*, indicating sixty-four and eighty-one *pada* grid

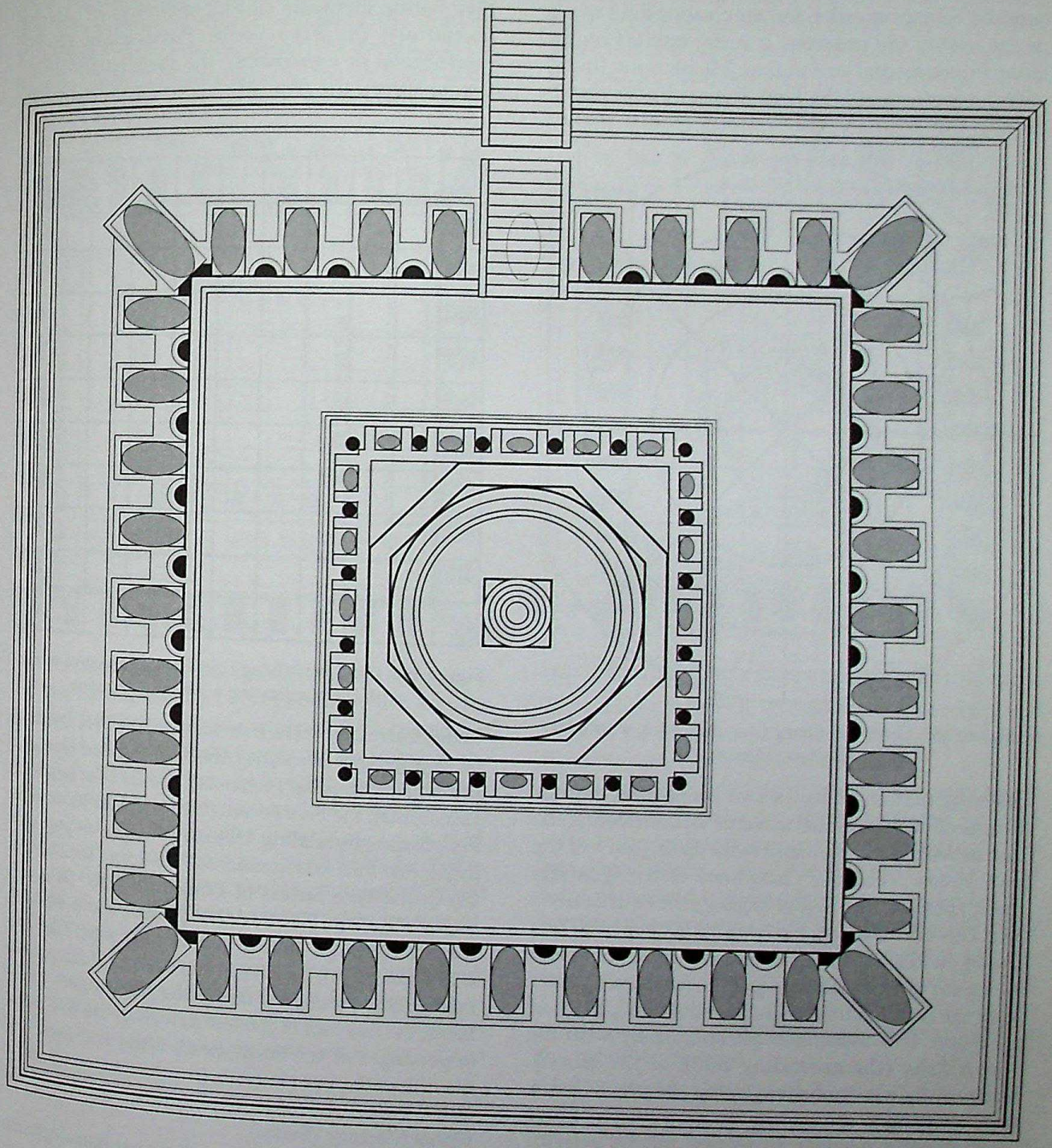
of the guardian elephants fall within one of the outer ranks of *pada*. The *chedi* rests within the *Brahmásthana* and the *Buddha* images within the realm of the secondary deities. The *Sthaniya Mandala* is also applicable to the upper terrace. Each of the *Buddha* images fall within their individual *pada* as does the areas flanking the images (See: **Figure 167**). The *harmika* and *chattravali* are protected by the *Brahmásthana*. Finally, if the upper terrace is considered and either a *Manduka Mandala* or a *Paramashayika Mandala* are applied (See: **Figure 168**), it is observed that in both cases the *harmika* and *chattravali* are protected by the *Brahmásthana;* and the *Buddha* images fall within the outer rank of *pada*, but not all conveniently within their own individual *pada*.

There are five numbers which may be considered as applicable to this *chedi*: four, five, ten, twenty and thirty-nine (forty). Four, referring to the four corner guardian elephants, denotes

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 68 -- *Chedi Wat Chang Lom*



<<< North

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-*

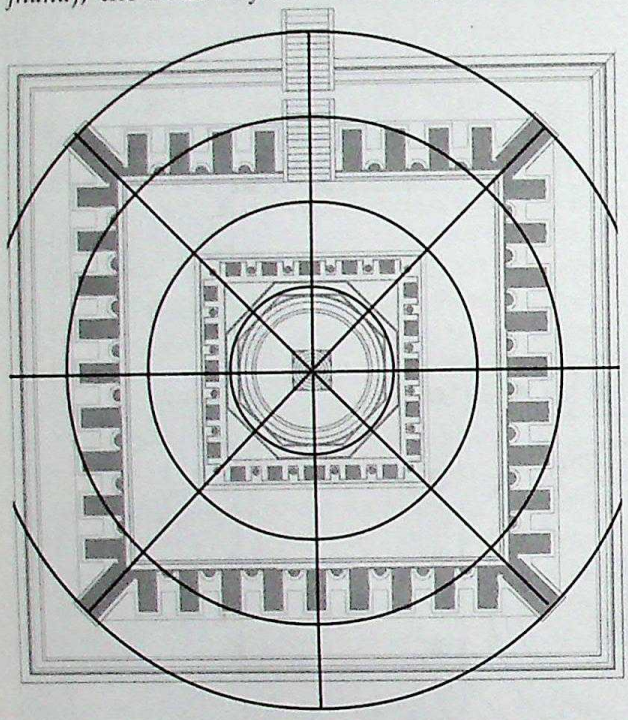


Figure 165: *Chedi Wat Chang Lom,* indicating a circular *Manduka Mandala*

iddhipada); the four *Vedas;* the four *Pradharthas;* the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu;* the Four Guardians of the Quarters (Indic: *Lokapala,* Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra.*

Five, referring to the *Buddha* images on each of four faces, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative (pentagram positive or pentagram negative [downward pointing]). This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the

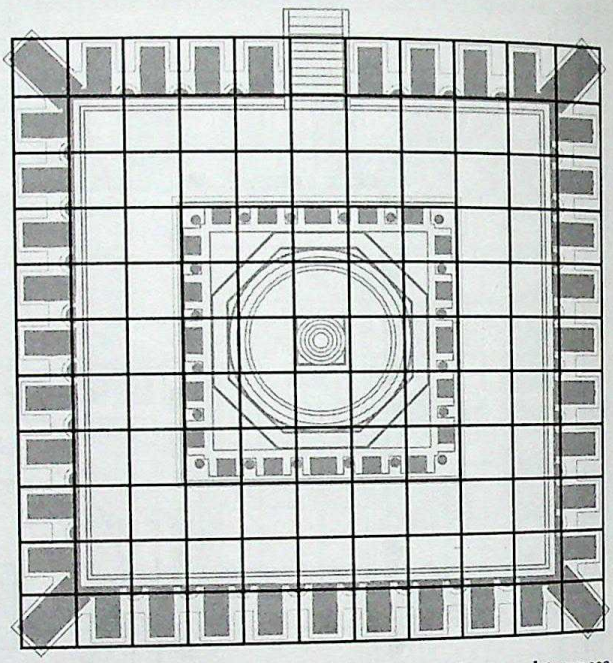


Figure 166: *Chedi Wat Chang Lom,* first and second terraces with *chedi* indicating a *Sthaniya Mandala*

vamanachara Tantra; the five *skandhas;* the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata,* Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha,* Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*).

Ten, referring to the smaller guardian elephants per each face, denotes perfection or completeness, success, and cosmic wisdom, as well as *karma.* It is exemplified in: the Ten *Avatars* of the Lord *Vishnu*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chedi Wat Chang Lom (Concluded)

(Indic: *dashavataras*); the *dasha-vahini-kala* (ten powers of the vital fire); the *dasha-yonis* (or *dasha-shaktis*); the Ten Sense Powers (Indic: *indriyas*); the Tenfold Knowledge (Indic: *dasha-nanam*); the *dasha-siddhis* of the *Shri Chakra's Trailokyamohana*; the ten books of the *Rig-Veda*; the Ten Insights (Pali: *solasa-nana*); the Ten

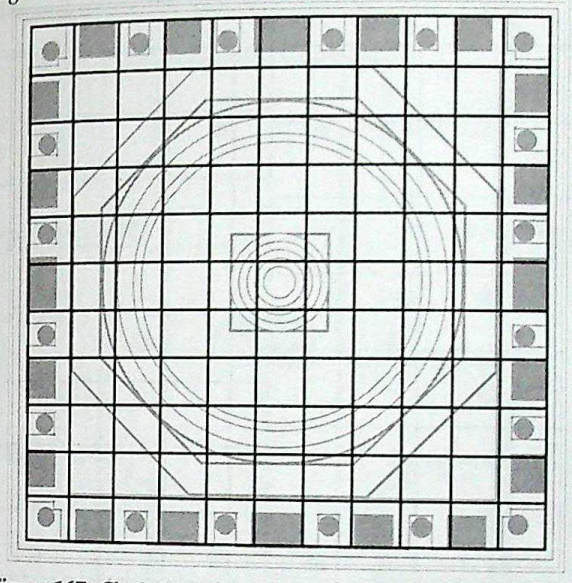


Figure 167: *Chedi Wat Chang Lom,* upper terrace with *chedi* indicating a *Sthaniya Mandala*

Powers of *Buddha* (Indic: *dashabhala*; Tib.: *sTobs-bCu*); the Ten Directions (Tib.: *Phyogs-bCu*) which are: the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; *Dasha-Mahavidyas*; and ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*). Additionally, it represents by the *Manipuraka Chakra*.

Twenty, referring to the total number of *Buddha* images, denotes perfection or completeness, success, and cosmic wisdom. This number is auspicious in its make up and represents renewal. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*. As a compound number it is associated with the Moon (*Soma* or *Chandra*). Finally, forty (implies), referring to the smaller elephant forms, denotes perfection and completion. This numeral is related to the Pleiades disappearance. It is exemplified in: the story that the Lord *Buddha* sat for forty days under

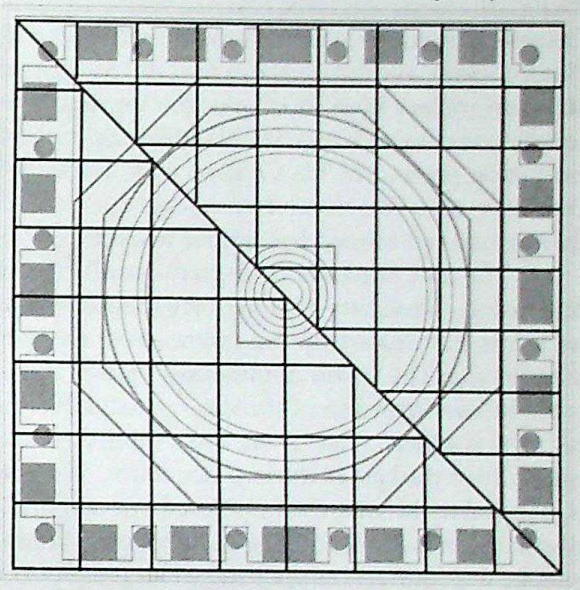


Figure 168: *Chedi Wat Chang Lom,* upper terrace with *chedi* indicating a *Manduka Mandala* and *Paramashayika Mandala*

the pipal tree before Enlightenment; and the forty Mental Exercises (Pali: *kammatthana*). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon).

The *Chedi Wat Chang Lom* iconic significance is fare ranging. Beyond the cosmic concerns, the *chedi* mirrors the cultural and economic concerns of the period and region. The supporting elephants, beyond being associated with Buddhist iconography, are also inextricably connected with the everyday life of the period as well as being symbols associated with the monarchy and power. The square design, as *Chedi Wat Kukut*, may find its design genesis in Indian prototypes, but is also indicative of the preference of the region and period.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Phra Chao Phanan Choeng

Ayutthaya, 1324 CE

(SL, CA, SV)

The *Wat Phra Chao Phanan Choeng* (aka *Wat Choeng Tha* or *Wat Phanan Cheng*) predates the ascension to the throne of Ramathibodi I (Prince U-tong) (1350-1369) by twenty six years. The *wat* was constructed at the confluence of the Chaophraya and the Pa Sak rivers, in an area that had been traditionally Chinese. The *viharn* was built to house the *Phra Chao Phananchoeng*, a seated image of the Lord *Buddha* some nineteen meters high. It is said that the image was constructed by a King Sai Nam Phung over the cremation ground of his Chinese wife, princess Soi Dok Mak, who had committed suicide due to the fact that he had not offered her proper respect.[15]

The *wat* consists of a girdle wall of small dimension--some fifty-two by forty meters--the area within is dominated by the *viharn*--over thirty-two meters long. The *viharn* dominates by sheer size and is on the east-west axis of the *wat*. A small *ubosot* rises near the southern wall. There are a number of *chedi*, generally to the east of the two structures. The whole is oriented to the east, the traditional orientation. The *viharn*'s plan is in the form of a Latin cross. Within its interior are fourteen supporting pillars--eight to the east of the altar, two to the west, and two each to the north and south of the altar. At the crossing is an elevated altar upon which rests the major *Buddha* image.

It is the plan of the *viharn* is what is of interest. It is suggested that the influence upon this *wat*, its major edifice, is Chinese. However, of the major Chinese structures that would have been known and available to the inhabitants of Ayutthaya (Ayodhya) of that period did not employ this type of plan. Since, prior to the ascension of Ayutthaya as a regional power, the area was, for a time, part of the Lavo Kingdom and it also fell within the sphere of influence of the Mon kingdom of U-Thong. The former, with its close ties to the Khmer both politically and stylistically, seems to be a more cogent source of influence. Even Ramathibodi I (Prince U-tong) and the early kings of Ayutthaya drew heavily from the Khmer style. The *prasat* plan of the *viharn*, an axial Latin cross, is not a plan that is frequently encountered in this period. There had been a predilection for the square, especially in the *chedi*. However, it was often employed by the Khmer, becomes more prevalent in the later Ayutthaya and is frequently employed in the Rattanakosin.[16] Unlike the Khmer *prasat* temples, the *Prasat Hin Phimai* or the *Banteay Samre*, the plan of the *Wat Phra Chao Phanan Choeng* does not indicate either vestibules or separate chapels of the west, north or east extensions. Rather these "extensions" become an integral part of the interior and therefore the whole.

Since the *Wat Phra Chao Phanan Choeng*, at least

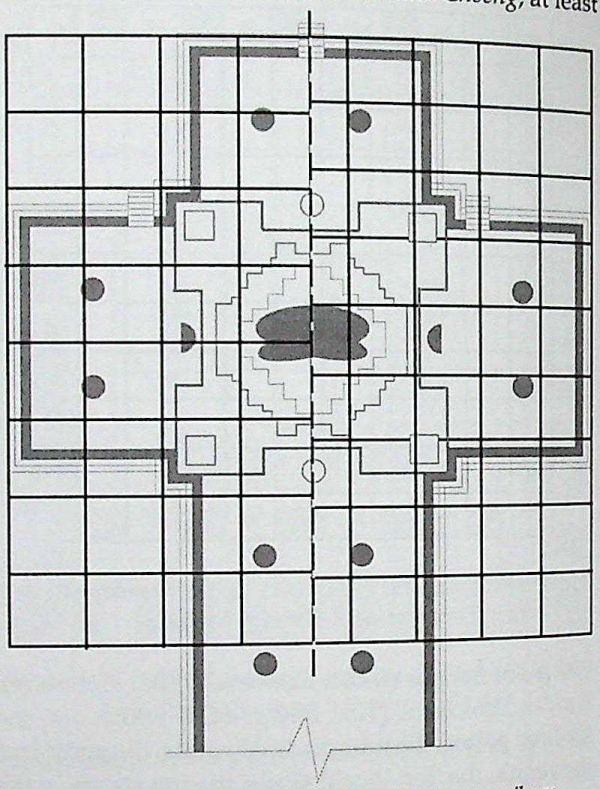


Figure 169: *Wat Phra Chao Phanan Choeng, wiharn* indicating sixty-four and eighty-one *pada* grid

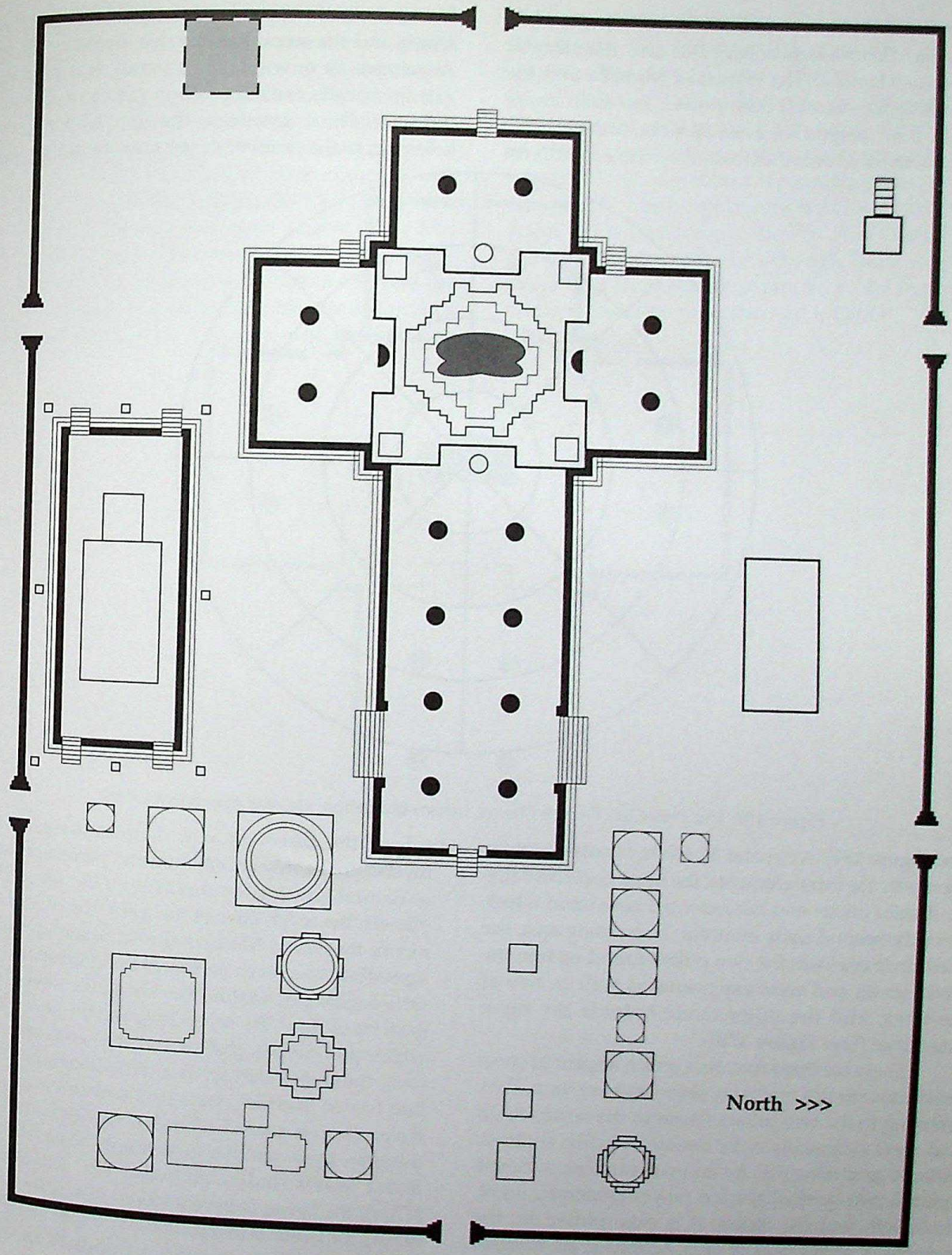
during the early years of its existence, did not enjoy royal patronage, it must be assumed that its iconography was not connected to the concept of kingship that the later *wats* of Ayutthaya were--e.g., *Wat Phra Si Rattana Mahathat, Wat Phra Ram, Wat Ratchaburana* and *Wat Phra Si Sanphet*. One would assume, therefore, that its iconography must be of a variety that fell within the parameters of temple (*wat*) architecture that had been practiced for a long period of time--i.e., an orientation to the east (masculine, the sun) with the presiding image in the west (feminine, the moon), and the acknowledgment of the cardinal points of the compass (the north-south extensions, *Lokapalas*).

When applying the principle of a *mandala* based plan on *Wat Phra Chao Phanan Choeng* there appears

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 69 -- *Wat Phra Chao Phanan Choeng*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to be three distinct possibilities--i.e., the *Manduka Mandala*, *Paramashayika Mandala* and the circular *Manduka Mandala*. The *Manduka Mandala* and the *Paramashayika Mandala* both protect the main image within their respective *Brahmásthana*, although the *Paramashayika Mandala* enfolds the whole altar form

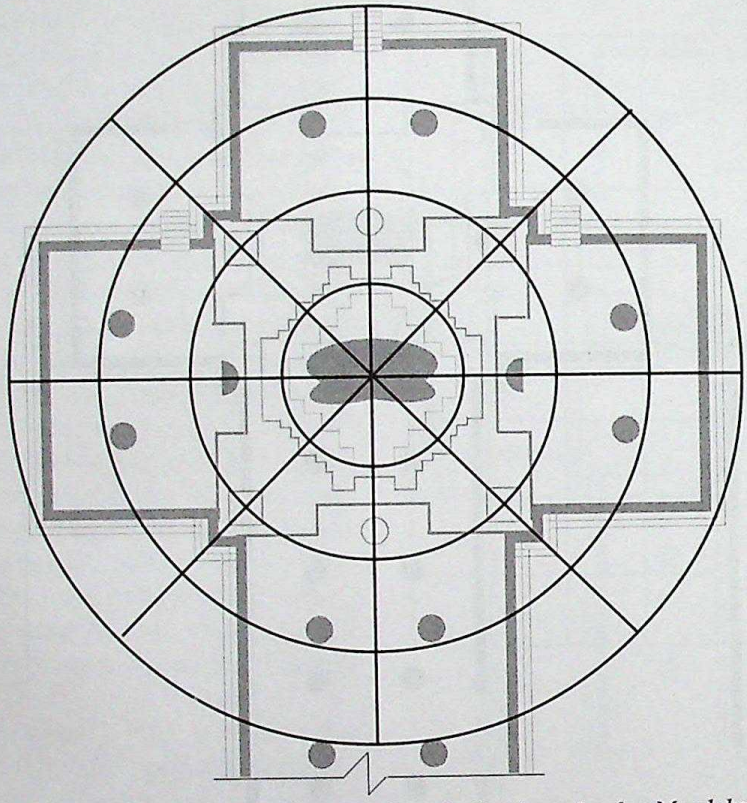


Figure 170: *Wat Phra Chao Phanan Choeng, wiharn* indicating circular *Manduka Mandala*

(See: **Figure 169**). A circular *Manduka Mandala* contain essentially the same elements: the inner circle contains the *Buddha* image and the redented base upon which it sits; the second circle involves the crossing area; the third circle encloses the two pillars found each in the north, south and west extensions as well as two of the nave; and the outer circle enfolds the three extensions (See: **Figure 170**).

There are three numbers which appear of some importance to this wat: two, seven and fourteen. Two, referring to the two pillars found in the north, south and west extensions each, denotes duality, contrast, polarity and diversity. As an even number, a female symbol two symbolizes the power principle, night, dark, left; and the moon. It is exemplified in: the concept of *Shakti-Shakta*; Two Actions (Pali: *kamma*); the Two Types of Gift Giving (Pali: *dana*); right-left; heaven-hell; day-night; two eyes, nostrils, breasts and testes; and the second of the five elements (*pancha-tanmatras*)--air or wind (*vayu, marut*). It is associated astronomically with the Moon (*Soma* or *Chandra*). Additionally, it represents the *Ajna Chakra*. Seven, referring to the number of columns found on either side of the east-west axis, denotes the sacred, the mystic, the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Fourteen, referring to the total number of interior columns, denotes involution, transmutation and relates to sexual relations. It is exemplified in the full moon, two of the moon's four cycles (waxing and waning); the *chaturdasha nadis*; the *Chaturdasha-dala trikona (Sarva Saubhagya-Dayaka Chakra of the Shri Chakra)*; the Fourteen *bhuvanas*; the fourteen-triangle figure of the *Shri Chakra* (*chaturdasha kona*); and the fourteen Psychic Functions (Pali: *vinnana-kicca*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces five and, therefore, the planet Mercury (*Budha*).

As one of the smaller *wats*, the *Wat Phra Chao Phanan Choeng*, nonetheless, represents the influence of previous models. Certain elements adhere to traditional Indian practices of proportions and design. As a temple which, apparently, was built outside the realm of royal patronage, the *Wat Phra Chao Phanan Choeng* indicates that even though there are some deviations from standard practices, the important elements conform to established tradition.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Mahathat

Sukhothai, 1345 CE

(SV, CM)

The *Wat Mahathat* of Sukhothai was the most important *wat* of that kingdom, for it contained a relic of no mean import. Constructed at the end of the reign of King Loethai (Lo Thai) (1299-1346) the *Chedi Wat Mahathat* with its distinctive form has become a symbol of that kingdom. Not only the symbol of the city/kingdom, the *Chedi Wat Mahathat* becomes the symbolic if not actual center of the city (See: **Appendix A, Plate 145**). The central, redented tower (*shikhara*) with its "lotus-bud" finial (See: **Figure 171**) nearly assumes the prominence of a palladia for Sukhothai.

Wat Mahathat is in itself a rather large and complex ensemble made up of scores of *chedis*, some large while the majority are middling to smaller, and a number of smaller *viharns*. The axial arrangement of the main ensemble[17] (See: **Plate 71**) grows from the *chedi* ensemble and is oriented eastward. The central ensemble is faced by a large tank, approximately forty meters square, while the whole, with its girdle wall, is surrounded by a canal system similar to those found in Angkor.

Wat Mahathat is unique in the arrangement of the central *chedi* ensemble[18]--i.e., the main (lotus bud) *chedi* which is surrounded by eight subsidiary *chedis*/towers--four at the cardinal points of the compass and four at the intercardinal points.[19] The cardinal point towers are Khmer in style and appear truncated.[20] Nonetheless their mass is somewhat more substantial than the Sri Lankan style towers: one at the intercardinal points (corners) which appear more slender and, in their present condition, taller. These nine towers of the *chedi* ensemble spring from the uppermost level of a four-tiered platform. On the second level and surrounding the third platform are twenty-eight pillars--eight on each face. Likewise there are pillars on the base platform--ten each on the north, west and south faces totaling twenty-eight. From the base platform and extending from the north, west and south elevations are three, nearly identical, colonnaded structures. Each possesses twenty columns in four ranks of five columns. From the east elevation of the base platform extends a wide area made up of forty columns in eight ranks of five each (See: **Plate 71, A**). Set between the fourth and fifth columns of the fourth and fifth rank is a raised altar area. Stretching eastward from this eight-ranked hall is another extension, narrower by the space of two ranks. This area possesses thirty columns set in six ranks of five columns each (See: **Plate 71, B**). From thence are two more smaller extensions. The first of eight columns in four ranks of two each (See: **Plate 71, C & D**) and the last of four columns with two ranks of two columns each. The total number of columns within areas **A** through **D** amount to seventy.[21]

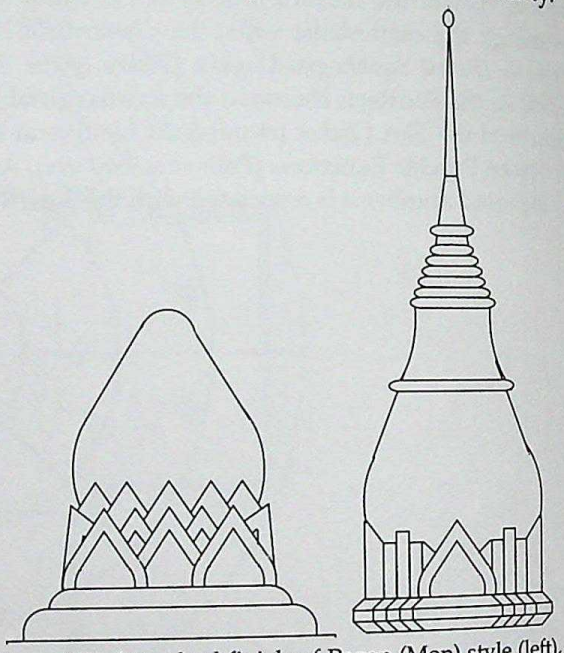


Figure 171: lotus bud finials of Pagan (Mon) style (left), and Sukhothai style (right)

Beyond the eastern most extension (**D**) is a separate *viharn* not completely included in **Plate 71**, but indicated in **Appendix A, Figure 145**. Additionally, there are two rather large *chedis* east of the north-south extensions, and two identical *viharn*-like structures to the west of these two arms. Finally, there are two additional raised areas: one is between areas **A** and **B**, while the second is between areas **B** and **C**.

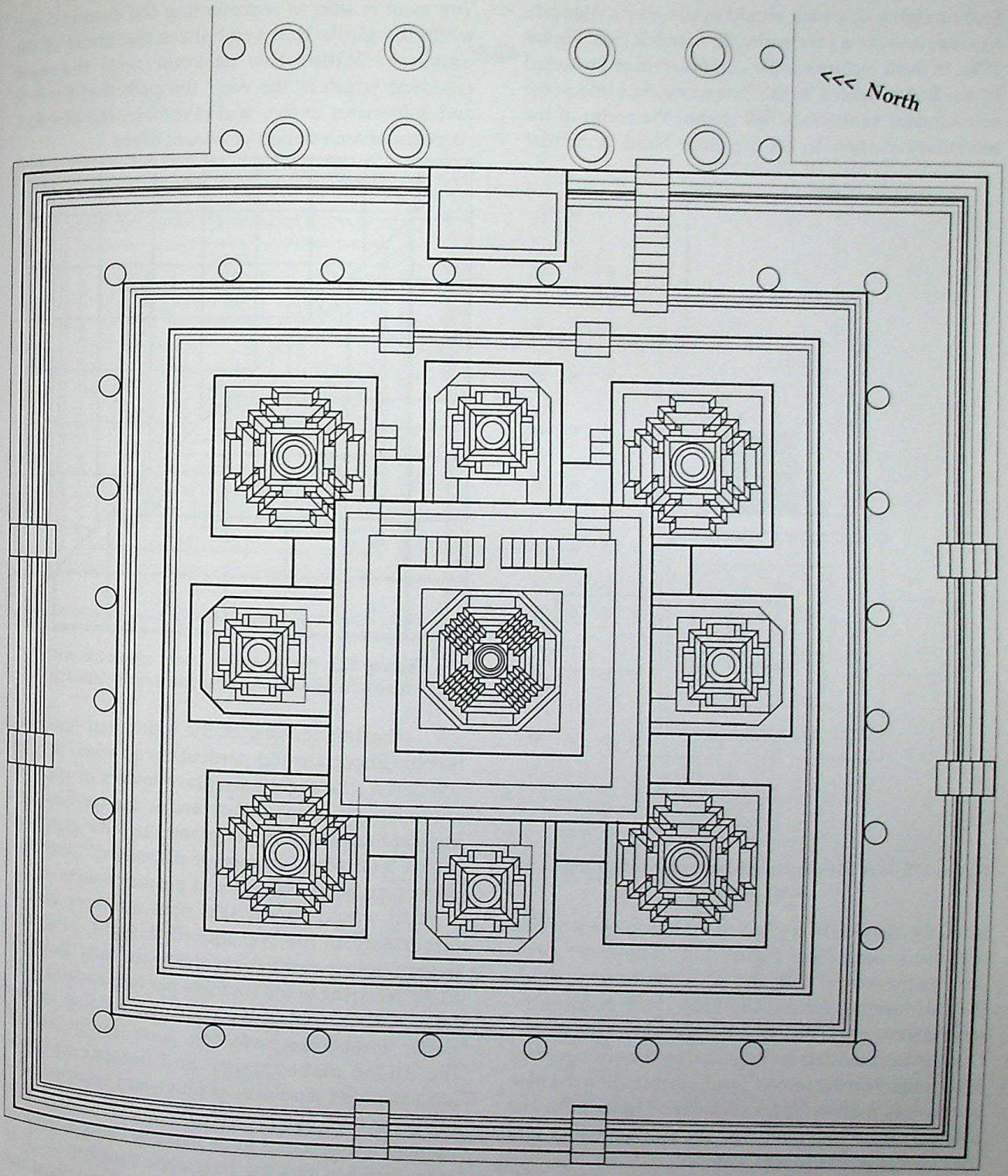
The axiality of the main structures noted above is apparent, however the addition of the various *chedis* and *viharns*, the majority of which is to the south of the main ensemble, gives the total a rather haphazard appearance, *en plan*. Doubtless, with the addition of these subsidiary and/or extraneous structures, axiality was not a consideration. However, the main ensemble's axiality possibly hints at another solution--a cross-axial resolution (See: **Figure 172**).

The *chedi* ensemble appears to possess several possible grids. If one considers the ensemble upon its double platform as shown in **Plate 70**, a grids of sixty-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 70 -- *Chedi Wat Mahathat*
(*chedi* ensemble)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

four or eighty-one *pada* would apply--i.e., a *Manduka Mandala* and/or a *Paramashayika Mandala* (See: **Figure 173**). In both instances, the central *chedi* is protected by the *Brahmásthana*. In the *Paramashayika Mandala* the surrounding nine *chedis* fall within the realm of the secondary deities. If, on the other hand, a circular

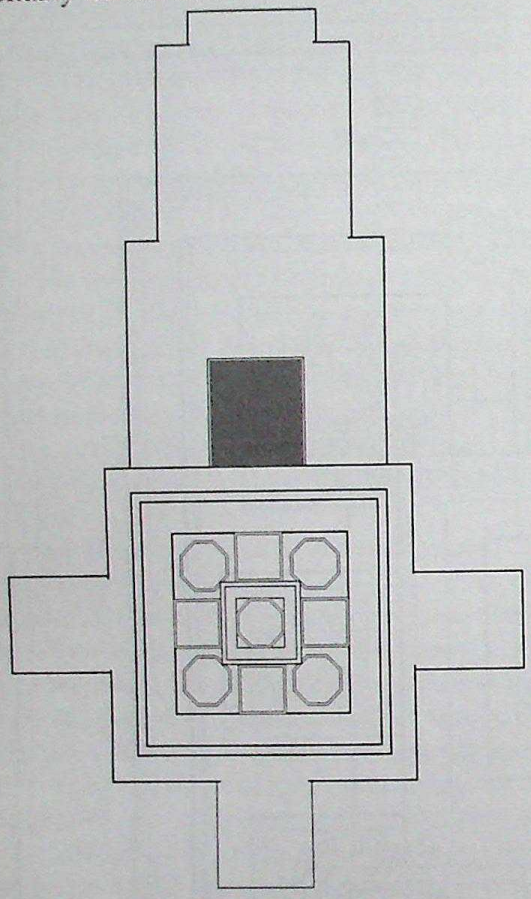


Figure 172: *Wat Mahathat, chedi* ensemble indicating cross-axial solution

Manduka Mandala is applied to the ensemble, a viable solution is seen (See: **Figure 174**). The inner circle protects the central *chedi* and the second circle enfolds the surrounding forms. The third circle bounds the second terrace and the outer circle encloses the whole. One further mandala is suggested by the arrangement of the pillars on the second level, surrounding the nine chedis--i.e., a *Sthandila Mandala* (See: **Figure 175**). The *Sthandila* is an area prepared for ritual sacrifice and may be applicable in this instance.

The iconography of the whole--i.e., main ensemble, subsidiary *chedis* and *viharns*, girdle wall and surrounding moat--reflects Buddhist concepts. The moat is seen as representing the cosmic ocean while the girdle wall symbolizes the limits of the universe.[22] Within this universe rests the main ensemble which is 'the way,' the path that leads to and culminates in the *chedi* ensemble, the physical, corporeal manifestation of Mount Meru.

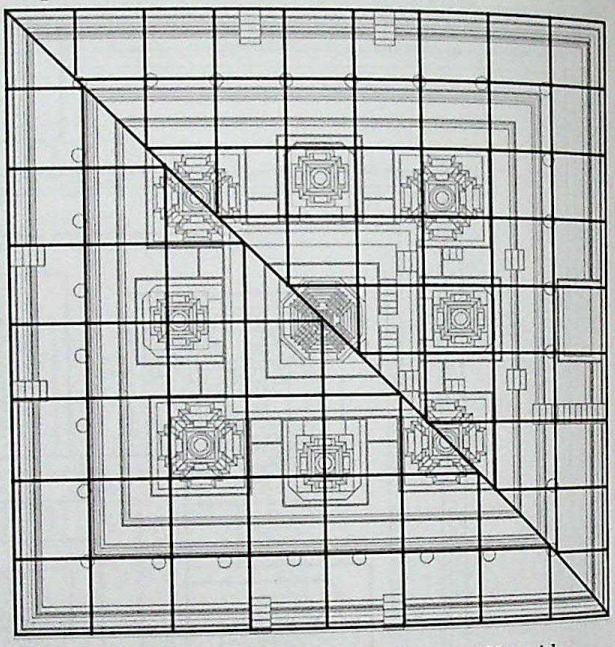


Figure 173: *Wat Mahathat, chedi* ensemble with *Manduka Mandala* and *Paramashayika Mandala*

The iconography of the individual parts also become important and particularly so when they are combined. The eight subsidiary towers of the *chedi* ensemble, situated as they are at the cardinal and intercardinal points not only represent the guardians of the quarters (*dikpala* or *dikpalaka*)[23] but also perfection, good fortune, and auspiciousness.

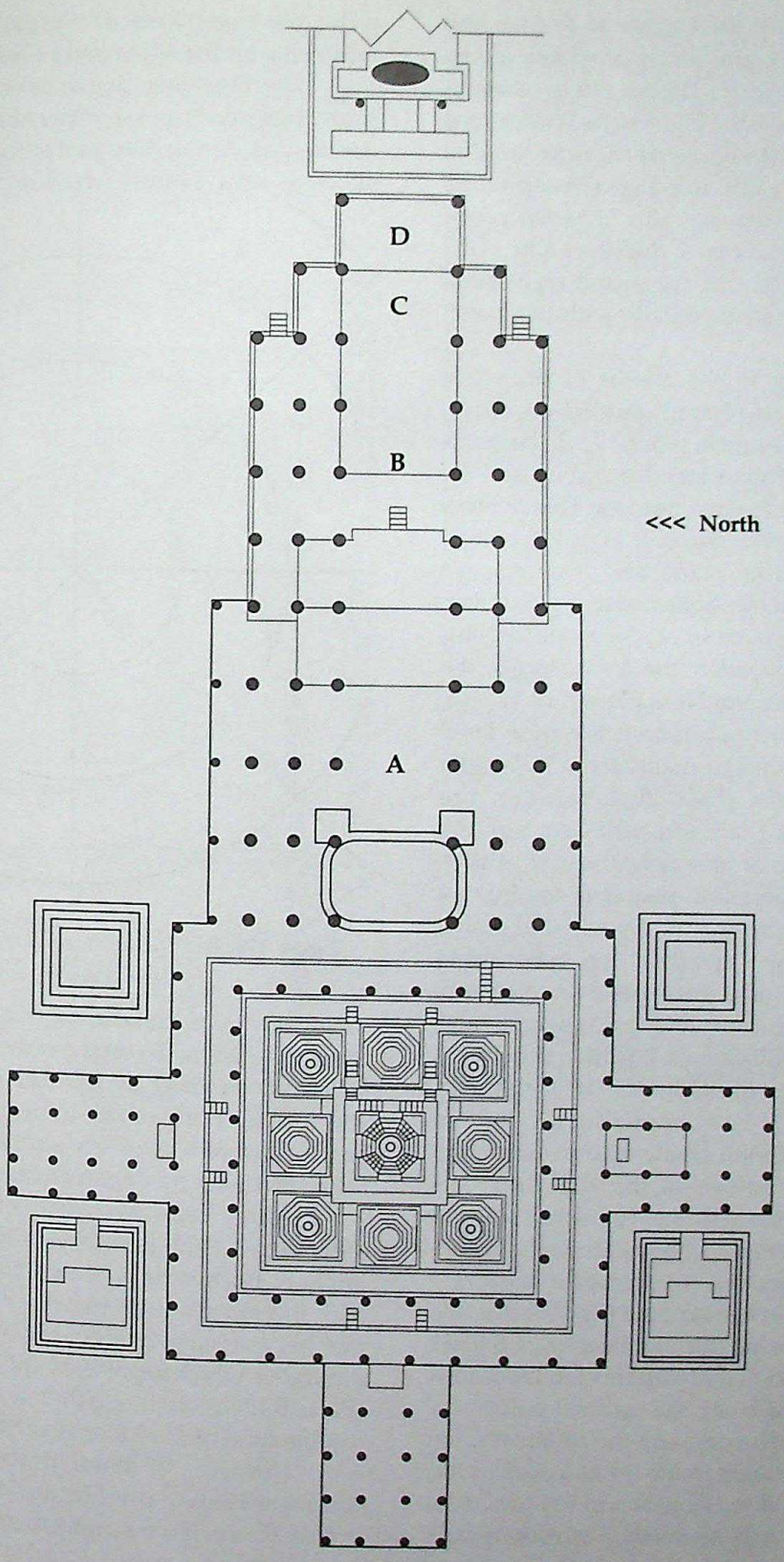
It would appear that nine numbers assume importance in the *Wat Mahathat*: eight, nine, ten, twenty, twenty-eight, thirty, thirty-six, forty and sixty. Eight, referring to the columns per face encircling the nine *chedis* as well as the eight surrounding smaller *chedis*, symbolizes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This integer as even, is representative of motherhood. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 71 -- *Wat Mahathat*

(central ensemble with *chedi* ensemble)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*).

Nine, referring to the chedis of the main ensemble, denotes completion, perfection, force, wisdom and silence. A number whose √ is 3, therefore, a magnification of that sacred number and by association itself a most sacred number. This number connotes completion and space. It is called perfect since it is formed from three and nine always reproduces itself when multiplied with any number. It is exemplified in: the number of *pada* in the smallest magic square; the *Navagrahas*; the *Nava-Durgas*; the *nava-Mudras*; *nava-nadis*; the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada;* the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala, Kuja* or *Angaraka*). Ten, referring to the number of columns per face on the lower platform, denotes perfection or completeness, success, and cosmic wisdom, as well as *karma*. It further represents unity emerging from multiplicity. It is the first compound number. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *dashavataras*); the *dasha-vahini-kala* (ten powers of the vital fire); the *dasha-yonis* (or *dasha-shaktis*); the Ten Sense Powers (Indic: *indriyas*); the Tenfold Knowledge (Indic: *dasha-nanam*); the *dasha-siddhis* of the *Shri Chakra's Trailokyamohana*; the ten books of the *Rig-Veda*; the Ten Insights (Pali: *solasa-nana*); the Ten Powers of *Buddha* (Indic: *dashabhala*; Tib.: *sTobs-bCu*); the Ten Directions (Tib.: *Phyogs-bCu*) which are: the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; *Dasha-Mahavidyas*; and ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*). Additionally, it represents by the *Manipuraka Chakra*.

The three extending arms of the north, west and south faces each possess twenty columns. Twenty denotes, as double ten, perfection or completeness, success, and cosmic wisdom. This number is

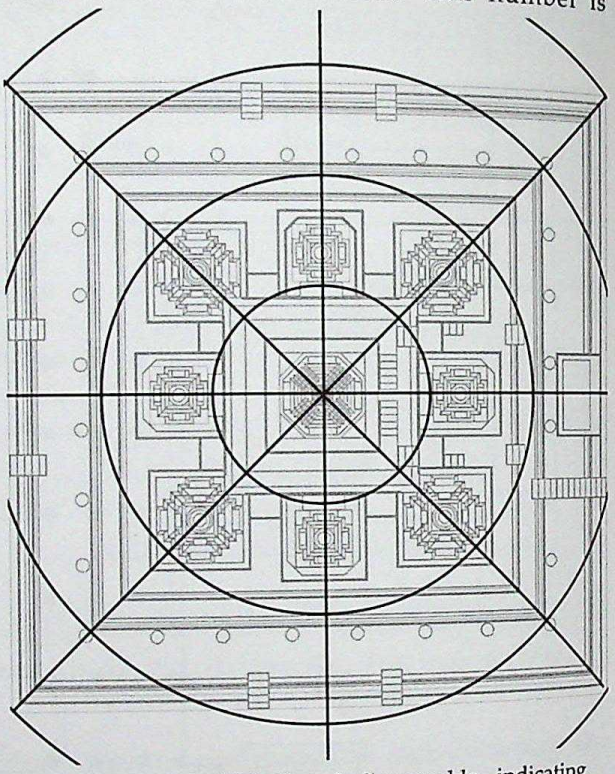


Figure 174: *Wat Mahathat, chedi* ensemble, indicating circular *Manduka Mandala*

auspicious in its make up and represents renewal. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*. As a compound number it is associated with the Moon (*Soma* or *Chandra*).

Again, there are twenty-eight columns on the outer edge of the first level, although thirty-six are implied. Twenty-eight is a number that is associated with the moon's cycle (twenty-eight days), a perfect number arrived at by the addition of its divisors, and a number which represents the Planes of Existence (Pali: *Bhumi*). It is further auspicious as it is a combination of the Moon and Saturn, and the Sun.

Extension "B" holds thirty columns. Thirty is considered to be a psychic numeral and is auspicious in its make up. It is exemplified in: the classes of beings

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

in the three spheres--i.e., ten in *Kamaloka*, sixteen in *Rupaloka*, and four in *Arupaloka*; Lord *Krishna* assumed *64 vidyas* in thirty days, days in a solar month; and 1/12 of a circle ($30 \times 12 = 360^0$). As a compound number it is associated with the planet Jupiter (*Brihaspati* or *Guru*). Thirty-six, referring to the number of implied

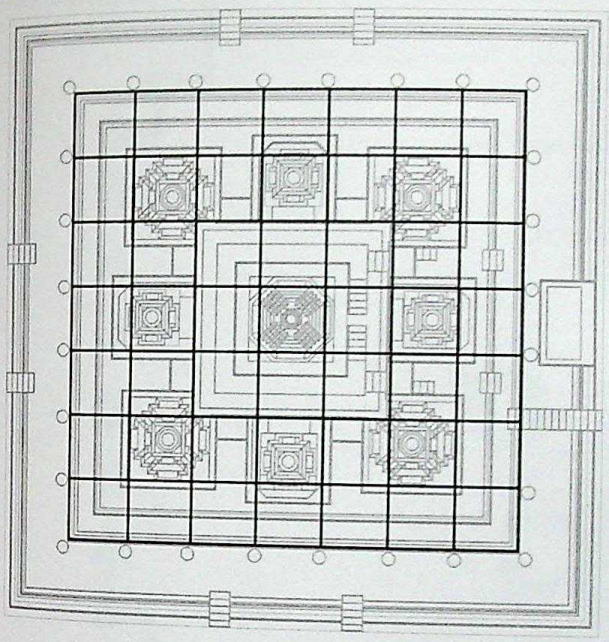


Figure 175: *Wat Mahathat, chedi* ensemble with *Sthandila Mandala*

columns on the first level, represents macrocosmic completeness, and a number whose √ is 6. This numeral, as any compound number has an opposite effect and may be considered as inauspicious. It is exemplified in the thirty-six *tattvas* of *Kashmiri Shaivism*. It is also the number of *pada* in an *Ugrapitha Mandala*. As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) and the planet Venus (*Shukra*). When reduced it produces nine and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*).

As has been stated above, extension **A** possesses forty columns. The integer forty signifies perfection and completion. This numeral is related to the Pleiades disappearance. It is exemplified in: the story that the Lord *Buddha* sat for forty days under the pipal tree before Enlightenment; and the forty Mental Exercises (Pali: *kammatthana*). As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon).

The three extensions together, of course, equal sixty columns. Sixty refers to a complete cycle of time and is associated with the planet Venus (*Shukra*). It is exemplified in: the believed cycle of Jupiter (sixty years), the sixty elements which constitute the way through the three worlds, the make up of a *stupa*, and the sixty levels of human development (See: "*Stupa*, Symbolism and Numerology" above).

Each element of *Wat Mahathat*, Sukhothai, underlines, buttresses and proceeds from one level to the next, from the outermost to the innermost, all culminating at the *chedi* ensemble and its centerpiece, the lotus-bud (*Kailasa*)[24] *chedi*. This *chedi* which not only is (was) believed to hold a hair and a neck bone of the Lord *Buddha* but also figuratively and symbolically acts as the axes around which that great kingdom existed and evolved. It represented to Sukhothai what the *Lakmuang* (the City Pillar) and the *Wat Phra Kaew* does to the Rattanakosin--both palladia and center.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Phra Si Rattana Mahathat

Ayutthaya, a. 1370 CE[25]

(DR, CA, SV, JB I, PR, SL)

The *Wat Phra Si Rattana Mahathat*[26] is one of the four major temples of this important kingdom/city. It is located to the east of the royal palace compound and immediately to the north of *Wat Ratchaburana*. Begun during the reign of King Boromaraja I (1370-1388) of the Suphannaphum Dynasty, the *wat* indicates not only the influence of the Khmers, but also the Thai adaptation and transformation of preexistent forms--notably the *prang* (See: **Appendix A, Plate 147**).[27] The *prang* of *Wat Phra Si Rattana Mahathat* is recognized by a number of scholars as being the first utilized by the indigenous and independent Thai of Ayutthaya.

Oriented towards the east, the large compound of *Wat Phra Si Rattana Mahathat*--some two-hundred-three meters long by one-hundred fifty-three meters wide--is axial *en plan*. It possesses one of the most impressive entrances of any wat in this city (See: **Figure 176**). As with many Thai *wats* there are a number of smaller *viharn* an other liturgical structures--fifteen in all--surrounding the main ensemble as well as some thirty-five *chedis* and *prangs* of varying sizes. Centered on the north-south and east west axes, elevated and enclosed by a wall--approximately eighty-five meters square--rises the central *prang*/shrine (See: **Figure 177**). This centering of the main high point (*chedi* or *prang*) is not a usual feature in Thai *wats* of either the Sukhothai or the Ayutthaya periods.[28] Within this sacred enclosure are to be found: four smaller *chedi* (one in each corner or at the intercardinal points), a raised platform on which are thirty-six *chedi* and *prangs* (ten on each face), a second and third low terrace on which are again four *chedi*/shrines at the corners. It is of interest to note that these four *chedi*/shrines enclose small interior chambers--the eastern two with entrances oriented to the east while the western two *chedi*/shrines' entrances face west. Finally a series of low plinths from which rises the main *prang* with its four chapel-extensions to the cardinal points of the compass. Each of these four arms hold a small chapel, however the eastern extension's chapel gives way to a narrow passage which leads to a small inner chapel directly under the center of the *prang*. The *prang* ensemble of *Wat Phra Si Rattana Mahathat* is essentially cross axial. Essentially, that is, in that there is a deviation in the eastern quadrant for the introduction of an entrance from the eastern *viharn*. Nonetheless it is essentially cross-axial. Beyond the *prang* ensemble, extending nearly to the girdle wall, to the east and to the west are two long, colonnaded viharn. With their inclusion, the plan becomes axial.

Iconographically, the plan of *Wat Phra Si Rattana Mahathat* possesses other unique features. The plan of the principle *prang* with its four extending chapels

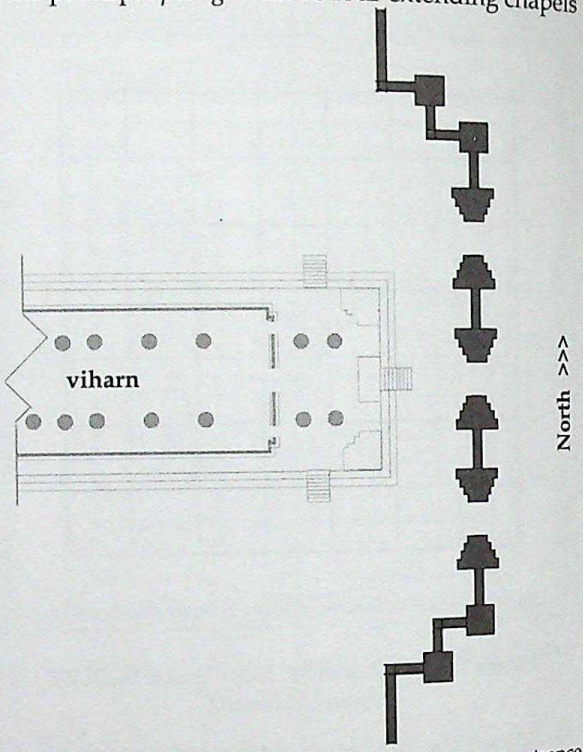


Figure 176: *Wat Phra Si Rattana Mahathat*, east entrance gateway

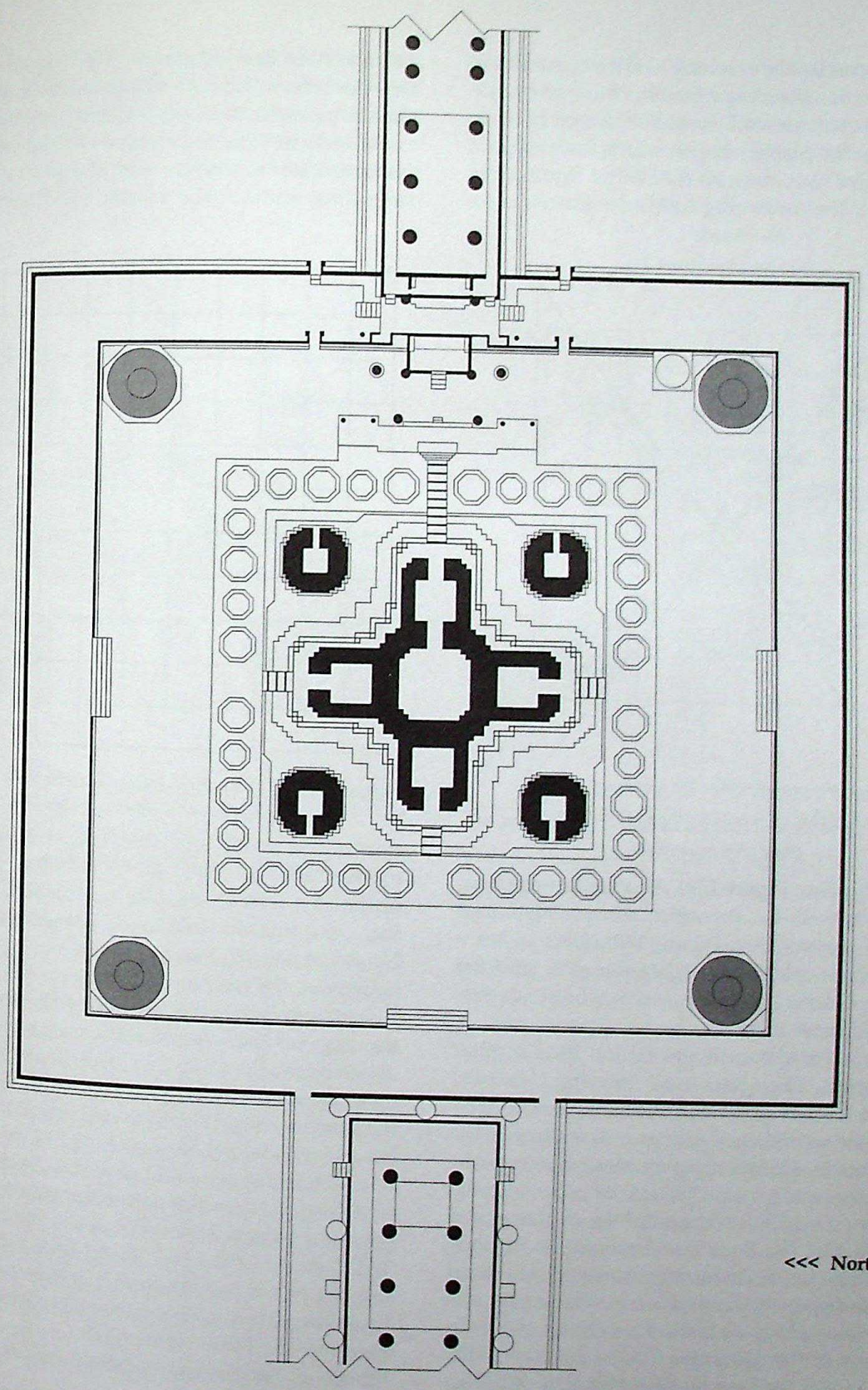
assumes a Greek cross more reminiscent of Khmer and Javanese plans than Thai precedents. The placements of the four tower elements in the corners of the outer *prang* enclosure as well as the four that are found on the third level of the *prang* ensemble may well be for design balance, but they emphasize not only the intercardinal points but also their guardians as well.[29] The four chapels of the cardinal points complete, as it were, the protection of the central sacred locale with reference to their *Lokapalas*.[30]

The central ensemble with its thirty-six smaller chedis presents several possible grid arrangements. First a grid of one-hundred-twenty-one *pada* (See: **Figure 178**). Each of the surrounding *chedi* and *prangs* are enclosed within one of the outer *pada*. The sanctuaries of the four shrines are, likewise, enfolded within a *pada* and the central prang is protected by

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 72 -- *Wat Phra Si Rattana Mahathat* (Central Shrine)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

nine *pada*. Secondly, the ensemble also fits comfortably within a circular *Manduka Mandala*. The outer circle enfolds the whole ensemble, while the second circle encompasses the platform upon which the quincunx rests. The third ring encircles the central shrine in its entirety, and the inner ring holds the inner shrine

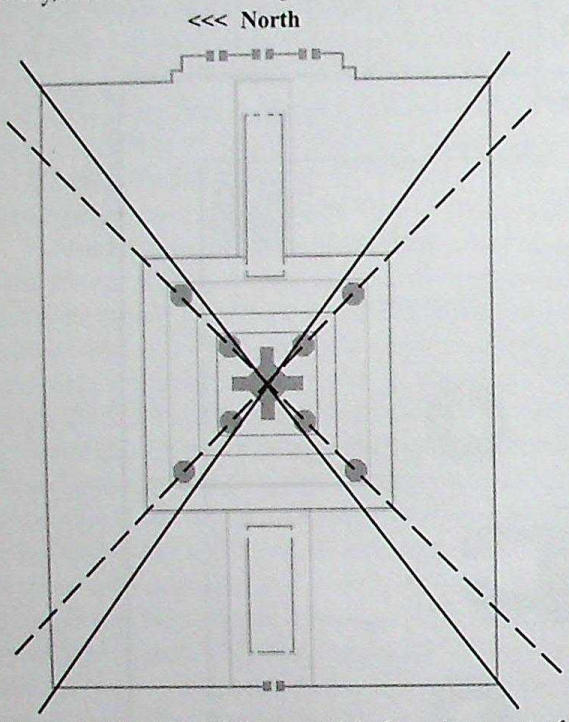


Figure 177: *Wat Phra Si Rattana Mahathat*, placement of the *prang* ensemble

(*garbha-griha*) (See: **Figure 179**). Another arrangement recommends itself--i.e., the central shrine with its four subsidiary shrines (See: **Figure 180**). Here either a sixty-four *pada* grid or an eighty-one *pada* grid are equally applicable. The *Brahmásthana* of both *mandalas* secure the central area.

There are six numbers which bear further consideration. They are: four, nine, ten, sixteen, twenty and thirty-six. Four, referring to the four towers of the second enclosure as well as those of the *prang* ensemble, denotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is

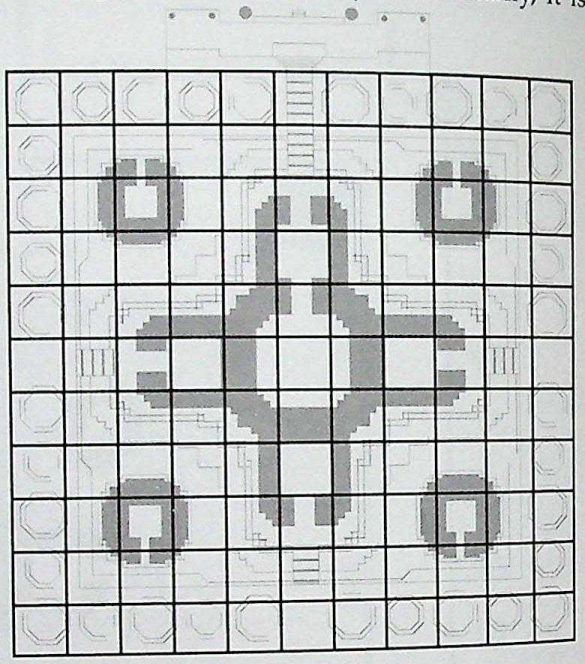


Figure 178: *Wat Phra Si Rattana Mahathat*, upper two terraces with *Sthaniya Mandala*

symbolized by the *Muladhara Chakra*. Nine, referring to the smaller *chedi* and *prangs* found in each quarter of the first terrace, denotes completion, perfection, force, wisdom and silence. It is exemplified in: the Nine Classes of *Yoginis*; the Nine Jewels (Indic: *navaratna*); the nine level worship of the *Shri Chakra* (*navavarana puja*); the Virtues of the *Buddha* (Pali: *Buddhaguna*); the Supermundane States (Pali: *lokuttara-dhamma*); the *Pitha Mandala* made up of nine *pada*; the nine orifices of the body; and the gestation period of the human being. It is associated astronomically with the planet Mars (*Mangala*, *Kuja* or *Angaraka*). Ten, referring to the *chedi* and *prangs* on each face of the first terrace, denotes perfection or completeness, success, and cosmic wisdom. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *dashavataras*); the Ten Sense Powers (Indic: *indriyas*); the Tenfold Knowledge (Indic: *dasha-nanam*); the ten books of the *Rig-Veda*; the Ten Insights (Pali: *solasa-nana*); the Ten Powers of *Buddha* (Indic: *dashabhala*; Tib.: *sTobs-bCu*);

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the Ten Directions (Tib.: *Phyogs-bCu*) which are: the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; *Dasha-Mahavidyas*; and ten fingers and ten toes. As a compound number it is associated astronomically with: the Sun (*Ravi* or *Surya*).

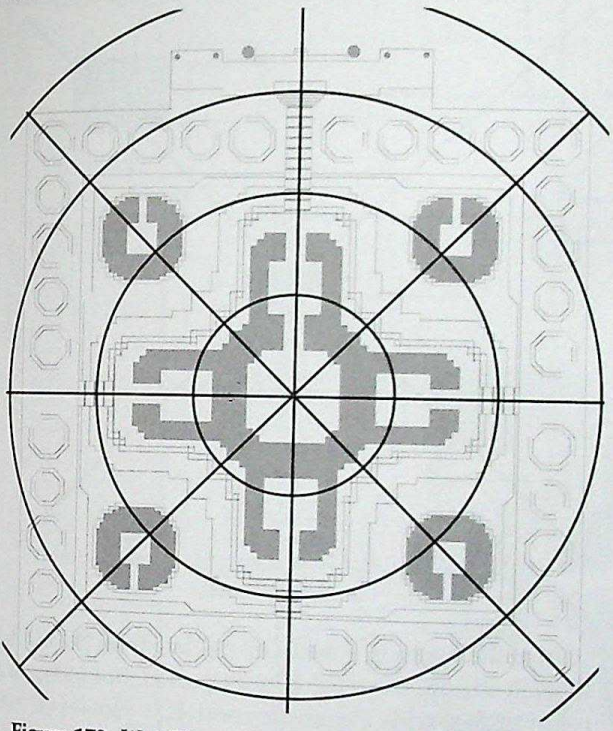


Figure 179: *Wat Phra Si Rattana Mahathat*, upper two terraces with circular *Manduka Mandala*

Additionally, it represents by the *Manipuraka Chakra*. Sixteen, referring to the smaller *chedis* of the first terrace, denotes divine destruction, the fall of man and the visible world. It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). Twenty, referring to the larger *prangs* of the first terrace, denotes perfection or completeness, success, and cosmic wisdom. It is exemplified in: the total number of fingers and toes (a limit of counting), the number of nails on the fingers and toes and one of the important numbers is the proportions of a *stupa*. As a compound number it is associated with the Moon (*Soma* or *Chandra*). Finally, thirty-six, referring to the *chedi/prangs* of the first level of the *prang* ensemble, denotes macrocosmic completeness. It is exemplified in the thirty-six *tattvas* of *Kashmiri Shaivism*. It is also the number of *pada* in an *Ugrapitha Mandala*. As a compound number it is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*) and the

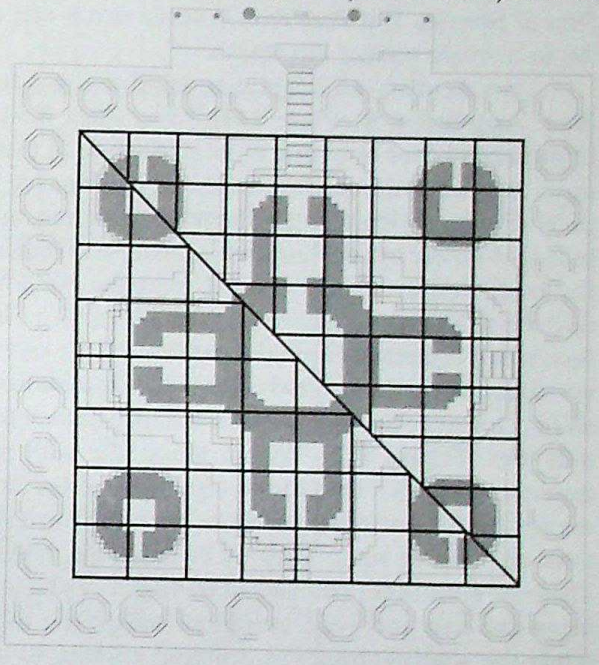


Figure 180: *Wat Phra Si Rattana Mahathat*, shrineensemble with sixty-four & eighty-one *pada* grid

planet Venus (*Shukra*). When reduced it produces nine and, therefore, the planet Mars (*Mangala*, *Kuja* or *Angaraka*).

When one speaks of Ayutthaya and its *wats*, generally *Wat Phra Si Sanphet* (1491) which assumes prime importance not only due to its layout but also because in the later periods it was designated as the *Royal Wat*.[31] Yet, the location of *Wat Phra Si Rattana Mahathat* due east from the palace compound, the impressive size of the whole, its strict axiality (even cross-axiality of the *prang* ensemble), the formidable entrance--unique in the *wats* of Ayutthaya--and the honorific title "*Mahathat*" places it as one of the most important, if not the most important *wat* of the early Ayutthaya period. Its strong or extended east-west axiality mirrors that of *Wat Mahathat*, Sukhothai, and buttresses and solidifies this form (plan) of Thai *wat* architectural design. Nonetheless, *Wat Phra Si Rattana Mahathat* shines as a major jewel in Ayutthaya's aesthetically substantial crown.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Phra Ram

Ayutthaya, 1369 CE[32]

(SL)

Founded by King Ramesuan (1369-70, 1388-1395), *Wat Phra Ram* is said to have been constructed over the spot where the first King of Ayutthaya, Ramatibodi I (1350-1369), Ramesuan's direct predecessor had been cremated. Located adjacent, just to the south and east of the palace complex and *Wat Phra Si Sanphet*, *Wat Phra Ram* in sheer size is one of the four major *wats* of Ayutthaya.

An Ayutthayan adaptation of Khmer models (See: **Appendix A, Plate 144**),[33] *Wat Phra Ram's* importance is not only due to its size, pride of place or its *raison d'etre*, but also because of its elegance of plan. Placed within a girdle wall of some one-hundred-ninety by one-hundred-seventy-five meters, the *prang* dominates the whole. Unlike the *Wat Phra Si Rattana Mahathat*, the *prang* ensemble of *Wat Phra Ram* is not centered within the confines of the sacred enclosure, rather is centered on the east-west axis and shifted towards the east, away from the north-south axis (See: **Figure 181**). Within the girdle wall are numerous smaller structures--*ubosot*, *mondhops* and *viharns*. In the northeast corner of this enclosure is a tank or pond of some forty by twenty-five meters. There are entrances to the sacred enclosure on the four faces--the east and west entrances are on the axes, while the south entrance is centered slightly to the east but on the north-south axes of the *prang*, and the north entrance is placed well to the west of the central axes. As with the *Wat Phra Si Rattana Mahathat*, *Wat Phra Ram* possesses two imposing *viharns*, the largest one to the east and a smaller one to the west. Both of these structures are connected to the gallery, square *en plan*, which encircles the *prang* ensemble. Inside this gallery (*rabiang*) are two low platforms. They are essentially square with a three-stepped extension to the north and to the south. Upon the uppermost terrace are to be found forty *chedis*--twelve on both the east and west faces and ten on both the north and south faces. These forty are divided into ten shrines located at each of the intercardinal points of the compass, much like those of *Wat Phra Si Rattana Mahathat*. In addition, within these forty smaller *chedis* are four larger *chedis* oriented at the intercardinal points. These forty-four *chedis* and shrines border the rather erratically formed platform which holds the main sanctuary and two flanking shrines (See: **Figure 182**). The arrangement of the three recalls those of *Wat Phra Phai Luang* at Sukhothai, built by Jayavarman VII as a *Mahayana Buddhist* temple and dedicated to the Lord *Buddha*, flanked by *Avalokiteshvara* and *Prajnaparamitra* (See: **Appendix A, Plate 144**). The east porches of the two flanking shrines as well as the east and west porch of the *prang* are extended and the *prang* also possesses a north and south entrance way. The

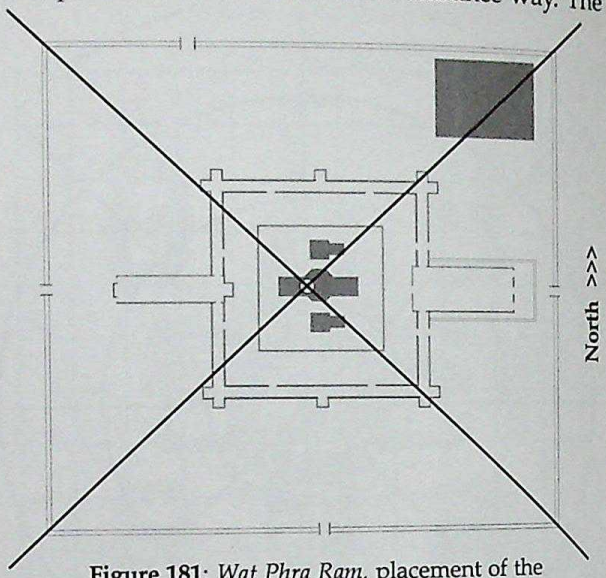


Figure 181: *Wat Phra Ram*, placement of the *prang* ensemble

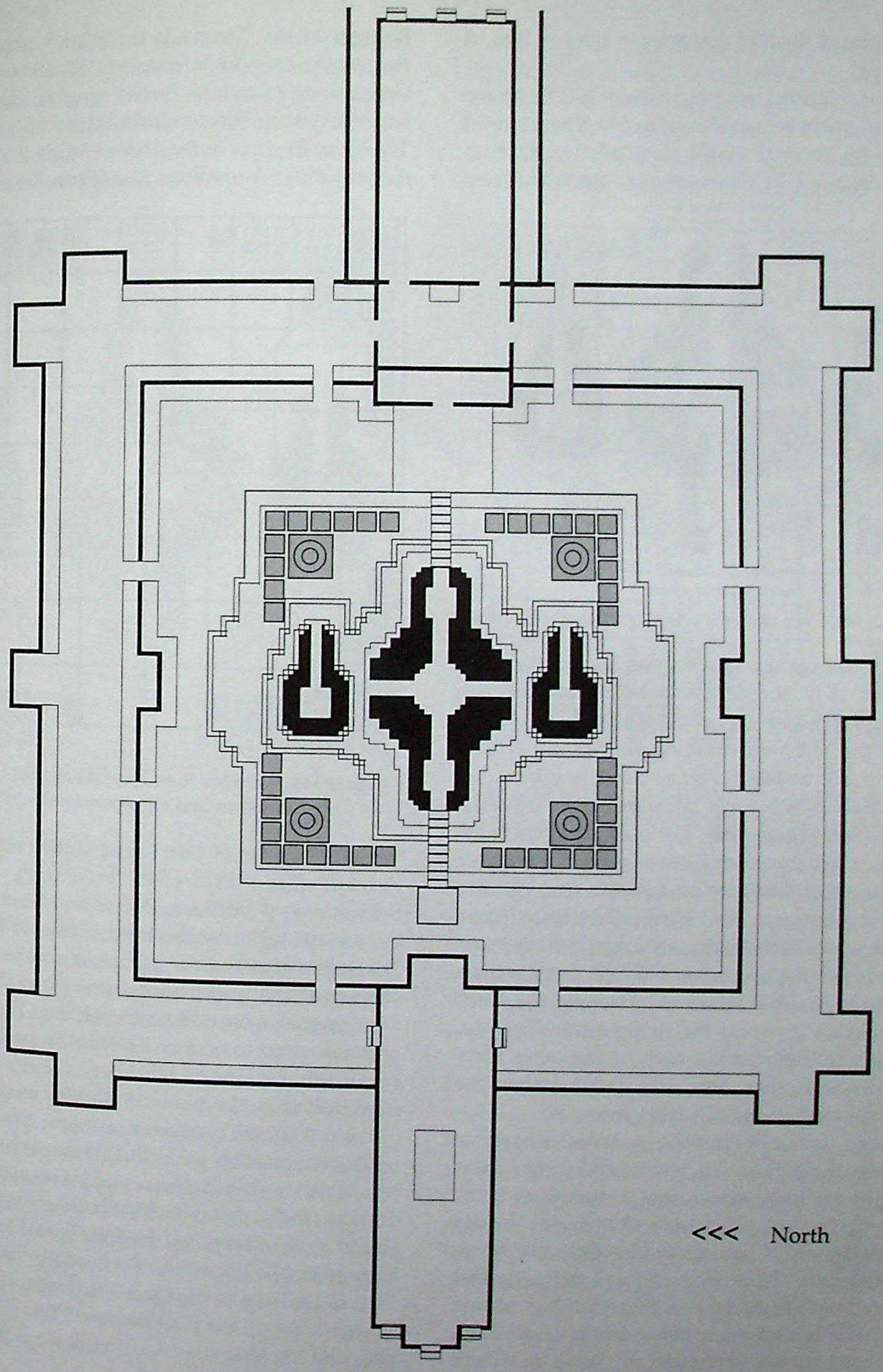
plan of the flanking shrines do deviate from the model of such shrines from the Khmer period, but indicate a relationship with Paganese models.[34] However, the *prang* plan begins with a rather standard *pancharatha*-like plan, but then extends the east and west porches considerably. In addition this *prang* is more attenuated than the Khmer models which seems to become predilection of the Ayutthaya builders--i.e., the elongation of the *chedi* is another prime example of this Ayutthayan "predilection."

The shifting of the center of *Wat Phra Ram* towards the east (See: **Figure 181**), towards the masculine sun, and the construction of the largest viharn extending from the eastern face of the *rabiang* would appear to give precedence to the male principle. Both Hinduism and Buddhism are essentially patristic, although the Hindu theology recognizes the feminine in an important way. Buddhism is not quite so condescending. Even though there had been queens regnant in Thailand's early history, by the Ayutthaya period the males dominated. The king in many ways was considered as the source of all. Was, then, the eastern shift of this temple, constructed on the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 73 -- *Wat Phra Ram* (Central Shrine)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

cremation site of the first Ayutthayan king an icon of that concept?

In considering the design basis of *Wat Phra Ram*, the *chedi* ensemble is considered, *en toto*. There would appear to be several viable possibilities. First, a *Manduka Mandala* or *Paramashayika Mandala* (See:

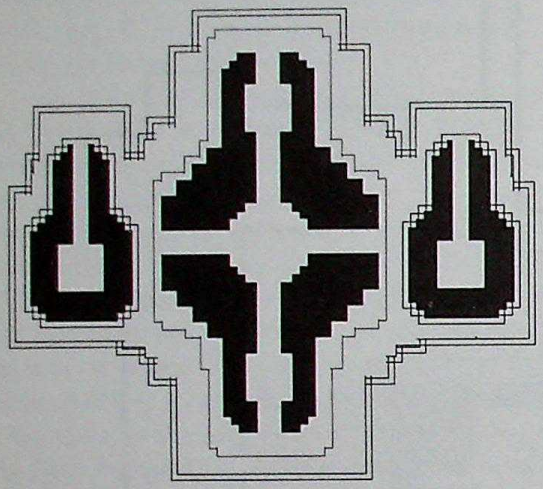


Figure 182: *Wat Phra Ram*, the *prang* & shrines' platform

Figure 183). This grid is keyed upon the surrounding forty *chedis*. It is noted that in both *mandalas* the *Brahmásthana* protects the *garbha-griha* of the central *prang* and the forty surrounding shrines fall within the outer rank of *pada*. The second is a circular *Manduka Mandala* which appears to be equally applicable (See: **Figure 184**). The outer ring encircles the whole, while the second circle reaches the outer edge of the second terrace and passes through the center of the larger corner *chedis*. The third band enfolds the whole of the main sanctuary, and the inner circle surrounds the sanctuary block. A *Padmagarbha Mandala* is applicable when considering the forty surrounding shrines and the *prang* ensemble (See: **Figure 185**). In this *mandala* each of the outer forty shrines fall within their own *pada*. Furthermore, the intercardinal *chedi* each fall within four *pada*.

There are six numbers which assume significance: three, four, ten, twelve and forty. Three, referring to the three structures of the upper level, signifies perfection, the trinity, the divine family (father, mother, child), and unity plus diversity which equals perfection. Three is considered to be the first masculine (odd) number and therefore has certain precedents. It is a sacred number and is exemplified in: the planet Jupiter (*Brihaspati* or *Guru*), the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); the trinity of *Brahmá, Vishnu, Shiva*; *trishula*; *Tripitaka* (Pali: *Tipitaka*); The Three Regions or the Three Worlds (Indic: *Triloka*) namely (Indic: *Arupadhatu, Rupadhatu, Kamadhatu*); the

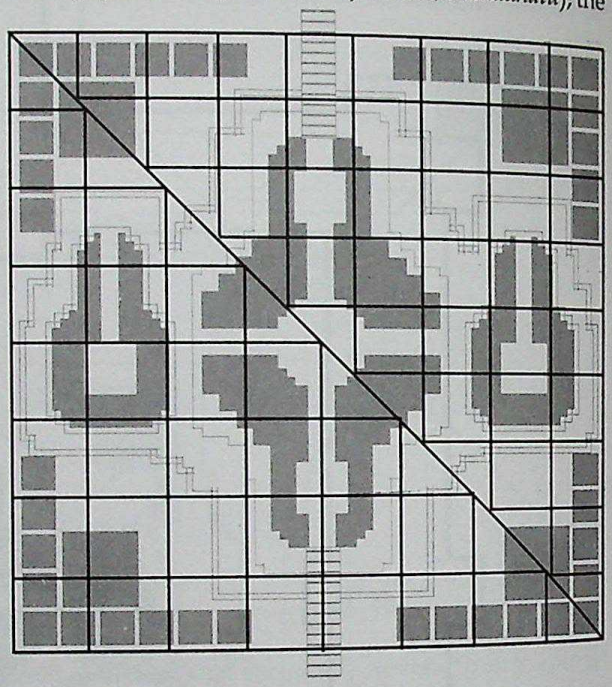


Figure 183: *Wat Phra Ram*, central ensemble indicating sixty-four and eighty-one *pada* grid

Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three *Bodhisattvas* of Wisdom, Power and Mercy; and the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*. Four, referring to the four *chedi*-shrines at the intercardinal points, is the numeral which signifies connotes completeness, perfection, the practical element and order. It is the perfect number of a higher plane, a number whose $\sqrt{}$ is 2. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); and the four streams of milk from the heavenly

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

udder creating the four sacred rivers. Additionally, it is represented by the *Muladhara Chakra*. Ten, referring to the ten surrounding shrines on the north and south faces, represents perfection or completeness, success, and cosmic wisdom. It further represents unity emerging from multiplicity. It is the first compound

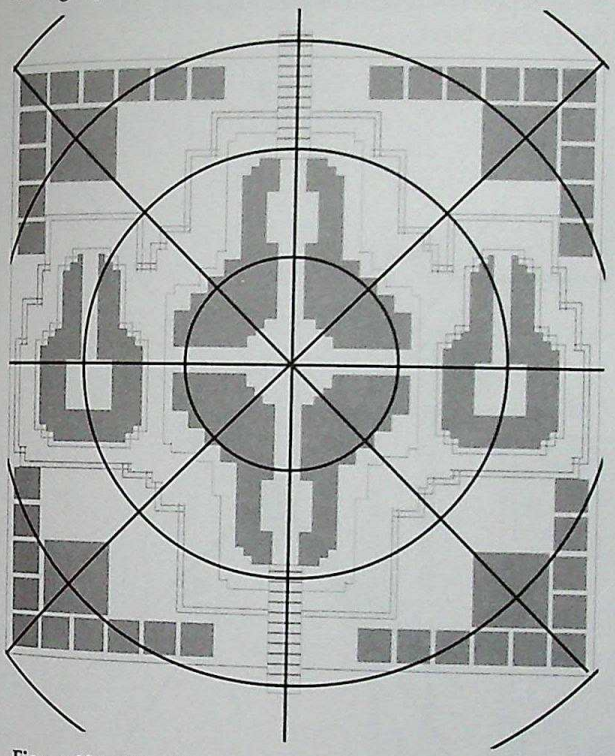


Figure 184: *Wat Phra Ram*, central ensemble indicating a circular *Manduka Mandala*

number. It is exemplified in: the Ten *Avatars* of the Lord *Vishnu* (Indic: *Dashavataras*); the Ten Powers of *Buddha* (Indic: *Dashabhala*; Tib.: *sTobs-bCu*); the Tenfold Knowledge (Indic: *Dasha-nanam*); the Ten Directions (Tib.: *Phyogs-bCu*) which are the cardinal points, the intercardinal points, the nadir and the zenith; the Ten World Gods; the ten stages in the life of a *Bodhisattva*; and ten fingers and ten toes. Additionally, it is represented by the *Manipuraka Chakra*. Twelve, referring to the twelve surrounding shrines on the east and west faces, is a cosmic number, comprehends all numbers lower than itself. It is exemplified in: The Twelve Deities of the Cycle of the Twelve Years (Tib.: *Lo-hKhor bCu-gNyis-kyi Lha*); the twelve months, the twelve signs of the Zodiac; the twelve hours of the day; the twelve hours of the night; the duties of the *Chakravartin* (Pali: *Cakkavatti-vatta*); the Twelve Dependent Originations (Pali: *Paticcasamuppada*). Additionally, it is represented by the *Anahata Chakra*, as well as being associated with: the Sun the Moon

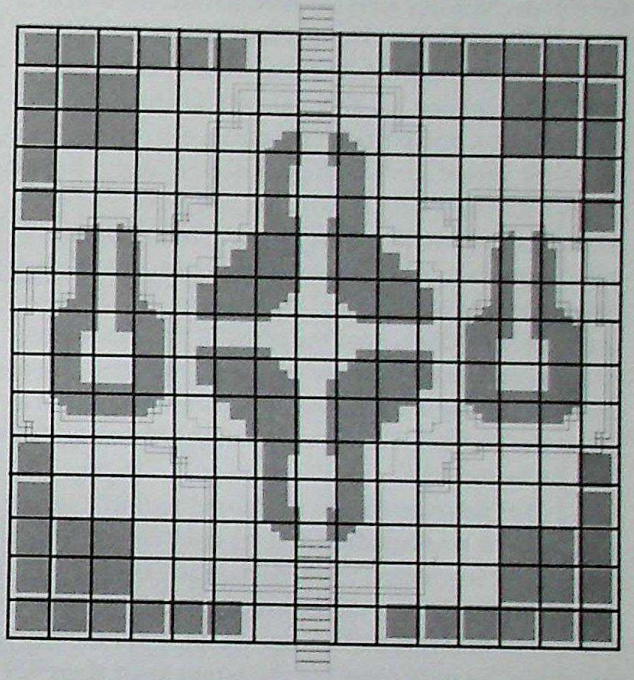


Figure 185: *Wat Phra Ram*, central ensemble indicating a *Padmagarbha Mandala*

and Jupiter. Finally, forty, referring to the forty *chedi*, is the integer which represents perfection and completion, related to the Pleiades disappearance. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the story that the Lord *Buddha* sat for forty days under the pipal tree before Enlightenment; and the forty Mental Exercises (Pali: *Kammatthana*).

The substantial *prang* of *Wat Phra Ram*, a truly masculine symbol, influenced by the mighty Khmer with their concept of the *devaraj*, may well have been an overt attempt to establish the dynasty of Ayutthaya, yet in its infancy, as a force with which to be reckoned. As a *wat* of importance, it would be supplanted in physical size, complexity and grandeur by the later *Wat Phra Si Sanphet*. Yet, it remains a potent symbol of the dynasty.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Ratchaburana (Wat Ratburana)

Ayutthaya, 1424 CE[35]

(SL)

Wat Ratchaburana is thought to have been raised by King Boromaraja II (Borom Rachathirat) (1424-1448) as a memorial to the death of his two elder brothers. They died while dueling each other upon elephant back in an attempt to gain the throne, each for themselves. As a result Boromaraja, third in line, ascended the throne. *Wat Ratchaburana* is the third of the four major *wats* of Ayutthaya being considered.

The *prang* is the central feature of *Wat Ratchaburana*, and particularly a feature in *wats* during the early period of Ayutthaya's development. Its use in *Wat Ratchaburana* as well as *Wat Phra Si Rattana Mahathat* and *Wat Phra Ram* seems to indicate not only an adherence to Khmer models, but also its inclusion seems to indicate royal patronage if not royal prerogatives.[36] However, the *prang* of this *wat* is closer in form and scale to those of the Khmer and not as extended as the *prang* of *Wat Phra Ram*. Some see it as using the *prang* of *Wat Phra Si Rattana Mahathat*, Lop Buri as its model.[37]

Wat Ratchaburana is contained within a girdle wall of some two-hundred-five by one-hundred-forty meters and is oriented towards the east. There are but two entrances to the inner precincts, one to the east and one to the west on the east-west axes of the main ensemble. As with many of the larger *wats*, there are numerous *chedis* and *prangs* of varying sizes (twenty-four in all) and *viharas* (six) within the sacred compound. Unlike the *Wats Phra Si Rattana Mahathat* and *Phra Ram*, *Wat Ratchaburana's* main ensemble is oriented neither on the north-south nor on the east-west axes (See: **Figure 186**) but to the south and east of those axes. The main ensemble consists of a large *viharn* extending to the east from the *prang* ensemble and connected to a gallery (rabiang), much in the same manner as was seen in *Wat Phra Ram*. To the west of this ensemble is an *ubosot*, separated from the group, but on the same east-west axis. Within the square gallery is the *prang* ensemble and two *chedis* or *prangs* in the northern corners only. However, the *prang* ensemble is not centered on the cross axes of the gallery, but shifted to the west much in the same way that the principle shrines of the Khmers had been set (See: **Figure 186**).[38] The *prang* ensemble consists of two superimposed platforms upon which rests four larger *chedi*-shrines oriented to the intercardinal points, at the corners. Between the northern two are four smaller *chedi*, likewise between the southern two are four more of similar size. There are four additional, similar *chedis*, two on the eastern side and two on the western side, totaling twelve *chedis*. From this level rises two more plinths upon which rests the *prang*-shrine. Its extended eastern porch is reached by a long, steep staircase from the gallery level.

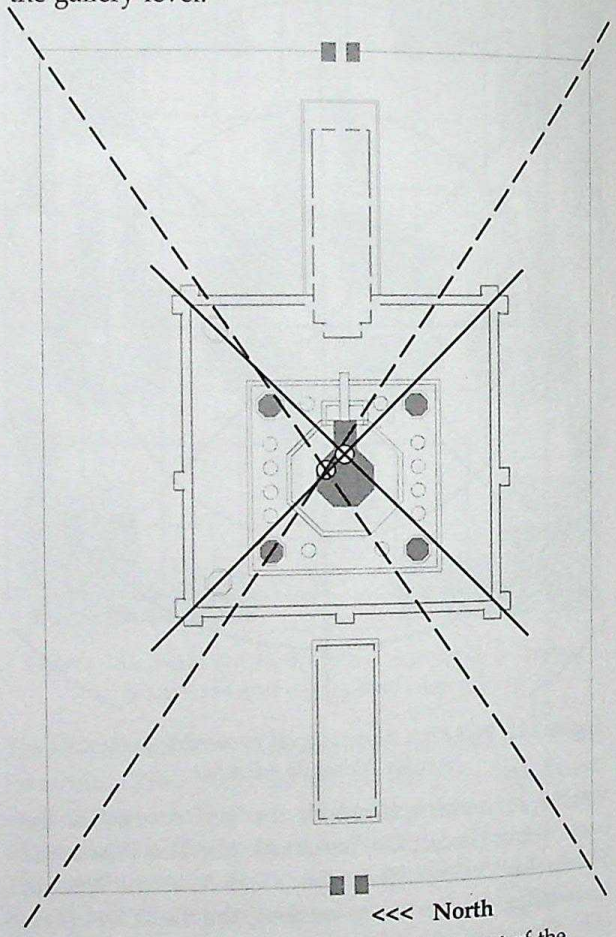


Figure 186: *Wat Ratchaburana,* placement of the *prang* ensemble

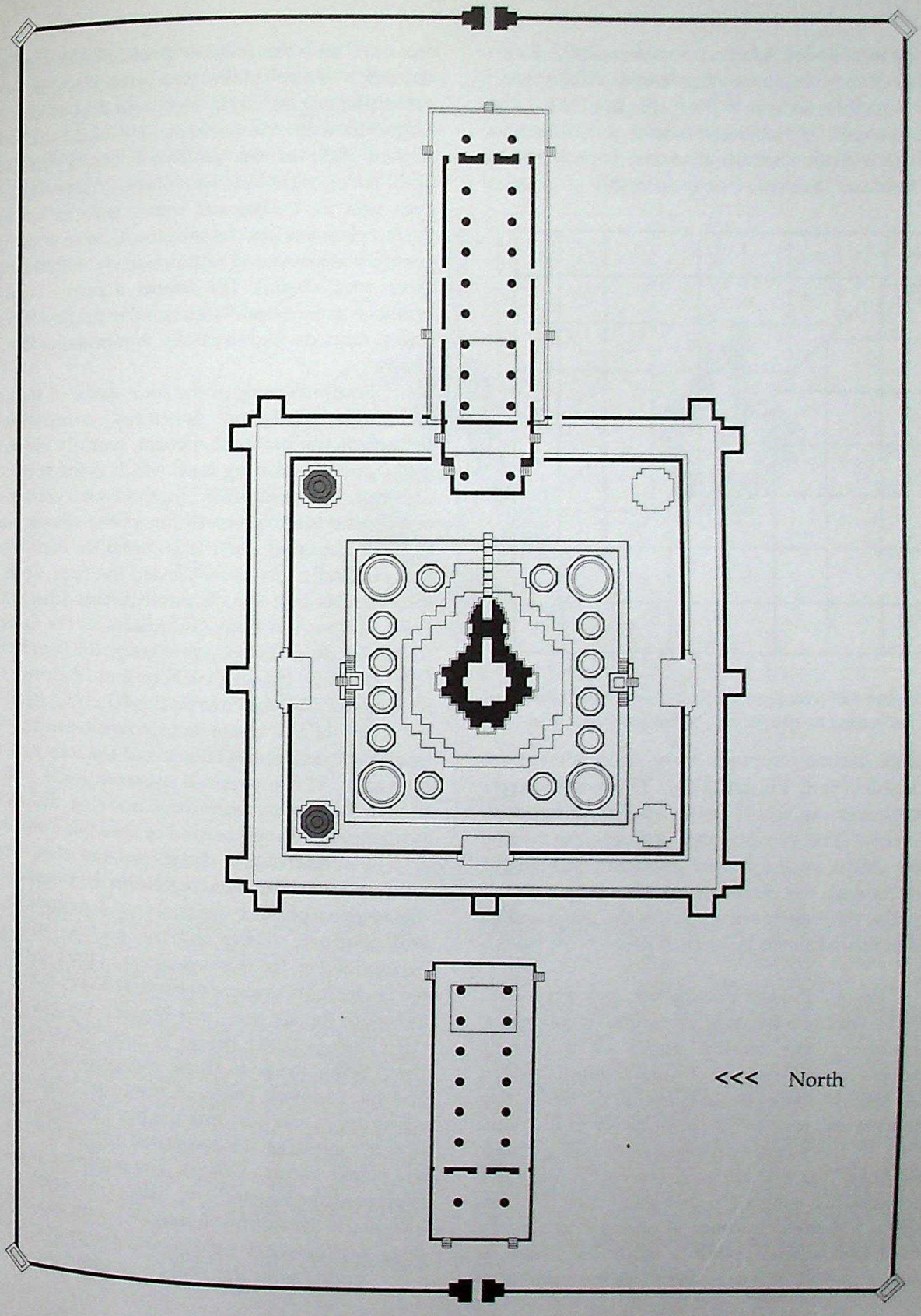
The large *viharn* to the east of *Wat Ratchaburana* holds sixteen columns in two ranks of eight each. The smaller *ubosot* contains twelve pillars in the cella, composed of two ranks of six columns each. In the vestibule to the west of the *ubosot* are two additional columns as there are in the open porch to the east of the *viharn*. In addition there are two more columns in a space that extends to the west of the *rabiang* from the *viharn*. The whole ensemble, minus the girdle wall, is axial on an east-west axis.

In applying a grid to establish a possible

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 74 -- *Wat Ratchaburana (Wat Ratburana)*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

mandala as a design source, two are possible. First a *mandala* of sixty-four *pada* (*Manduka Mandala*) appears as a possible solution (See: **Figure 187**). The *Paramashayika Mandala* appears less satisfactory, although in both cases the sanctuary is protected by the *mandalas' Brahmásthana*. Secondly, a circular

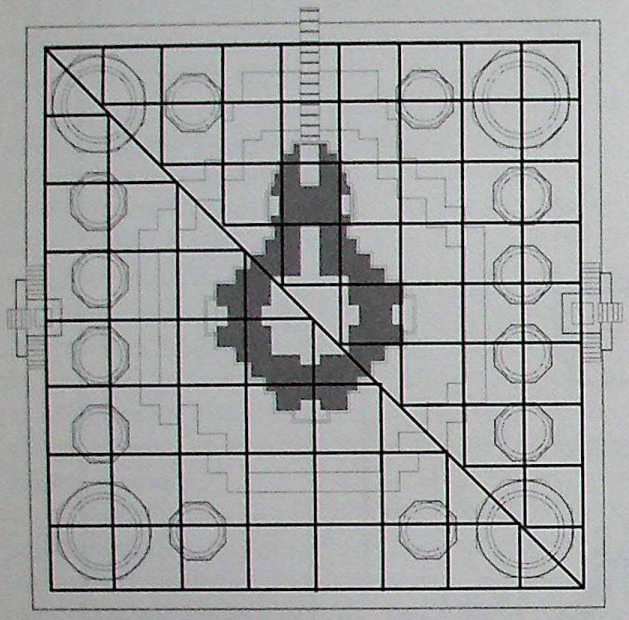


Figure 187: *Wat Ratchaburana,* central ensemble, indicating sixty-four and eighty-one *pada* grid

Manduka Mandala appears to be somewhat more applicable (See: **Figure 188**). The outer circle encompasses the whole *prang* ensemble upon its platform(s). The second circle enfolds the twelve smaller *chedis* on the second platform and nearly passes through the center of the four larger, corner *chedis*. The third circle encompasses the *prang* and its raised plinth, while the inner circle protects the *garbha-griha*.

Beyond the fact that the *wat,* as a whole--i.e., the girdle wall and the main ensemble--is essentially asymmetrical the twelve *chedis* on the *prang* ensemble's second level are of some interest. Divided as they are--i.e., two to the east, four to the north, two to the west and four to the south, or six to the north and six to the south--presents interesting iconic possibilities. Two, as in the various repetitions of pairs, denotes duality, contrast, polarity and diversity. This integer is a material number, as opposed to a divine number, and when applied to either the Arabic or Roman alphabet, it is considered as the number of creation, and the mother principle. As an even number, a female symbol two symbolizes the power principle, night, dark, left; and the moon. It is exemplified in: the concept of *Shakti-Shakta;* Two Actions (Pali: *kamma*); the Two Types of Gift Giving (Pali: *dana*); right-left; heaven-hell; day-night; two eyes, nostrils, breasts and testes; and the second of the five elements (*pancha-tanmatras*)--air or wind (*vayu, marut*). It is associated astronomically with the Moon (*Soma* or *Chandra*). The Moon, a prime feminine symbol is quite naturally assigned to the first feminine (even) number. Additionally, it represents the *Ajna Chakra*.

Four, referring to the four *chedis* of the *prang* ensemble platform, connotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas;* the four *Pradharthas;* the *chakrasudarshana* (disc) of the Lord *Vishnu;* the Four Guardians of the Quarters (Indic: *Lokapala,* Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon). Additionally, it is symbolized by the *Muladhara Chakra.*

Six, referring to the six smaller chedis to the north and/or south axes, represents the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu;* the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*); the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra.*

Eight, as in the rank(s) of eight columns of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the viharn, symbolizes perfection, good fortune, and on the divine plane: justice and balance between attraction and repulsion, positive and negative. This number is auspicious in its makeup being an evenly even number and the first cube number, 2^3. It is exemplified in: the eight forms of the Lord *Shiva*; the

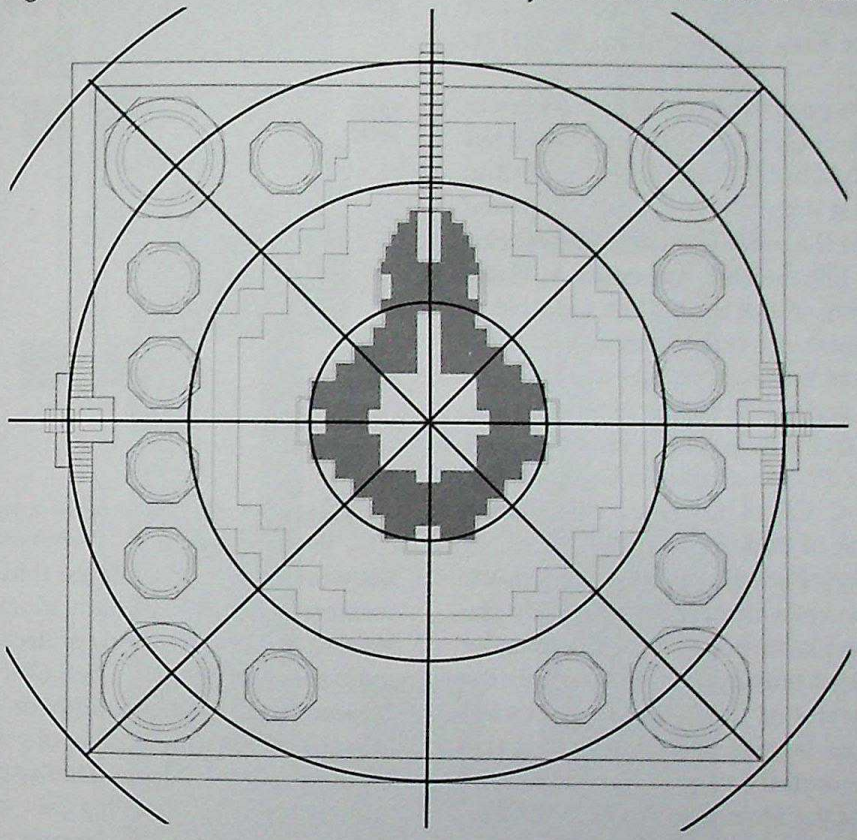


Figure 188: *Wat Ratchaburana,* central ensemble, indicating circular *Manduka Mandala*

Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*).

Sixteen--the columns within the *viharn*--signifies divine destruction, the fall of man and the visible world. This integer also signifies completeness or balance being made up of opposites--the Sun and Venus. It is a number whose $\sqrt{}$ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*.

If indeed, *Wat Ratchaburana* was a memorial to the overly zealous brothers of King Boromaraja II, it is a fitting monument by a grateful king (brother) to his ambitious siblings. Its substantial *prang* mirrors the past, possibly intended as an additional tribute.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Chedi Chet Yot (Wat Mahabodharama)

Chiang Mai, c. 1455 CE

(JA, SV)

The *Chedi Chet Yot* at *Wat Chedi Chet Yot* (*Wat Mahabodharama*) (Monastery of the Seven Pinnacles) is indeed a formidable monument, not in scale, but in content. Some scholars had formerly dated it to the reign of King Aniruddha of Pagan (c. 1050 CE), while nowadays most date it some four-hundred years later during the reign of King Tiloka of Chiang Mai (c. 1455).[39]

It had been generally stated that the main sanctuary of *Wat Chedi Chet Yot* is influenced by, if not a copy of the *Mahabodhi*, Buddh-Gaya, India. However, the closest resemblance to that venerated shrine is the general shape of the main tower/shrine (*chedi*) (See: **Figure 189**; see also: **Appendix A, Plates 148 & 149**). Therefore, it exists as a fine example of much of the Thai aesthetic practice in not slavishly copying a preexistent forms, but using a antecedent to conceive a new and vital creative work. *En plan*, the *Chedi Chet Yot* shrine indicates a closer influence with the *Thuparama*, Polonnaruwa, Sri Lanka, or the *Tivanka Pilimage* (12 C. CE) of the same locale, than to the *Mahabodhi Temple* of Buddh-Gaya.[40]

The main shrine is axial, oriented towards the east with a narrow cella illuminated only by the doorway. To the west is an extension with a smaller chapel also illuminated only by the portal. Within the north and south walls of the cella are stairways leading to the upper terrace. Here are five square towers (*chedis*). The central tower, by far the largest, in the form of that of the *Mahabodhi Temple* of Buddh-Gaya. The four smaller towers, located at the intercardinal points, exhibit a similar design. East of theses five, located over a north-south extension are two *chedis* of Sinhalese influence, hence the name *Chedi Chet Yot* (See: **Figure 190**). The plan of the main block recalls the *gu* of the Pagan temples, dark and cave-like. The seven towers do not resemble the tower ensemble of either Buddh-Gaya or Pagan (See: **Figure 190**; see: **Appendix A, Plates 148 & 149**). Specifically, the seven towers are said to refer to and are icons of the seven sites of Buddha's meditation after his Enlightenment. The fact that the towers are separated into two groups with regard to their form--i.e., one of five square *chedis* and the other of two round *chedis*--is of further interest.

The long rectilinear form of the *Chedi Chet Yot*, as has been pointed out, resembles the plan and form of the *Thuparama* or the *Tivanka Pilimage*, both of Polonnaruwa. Alas, it does not lend itself to the application of a square *mandala* grid. However, when a circular *Manduka Mandala* is impressed over the whole, it appears to bear some credibility (See: **Figure 191**). The outer circle contains the temple in its entirety. The second circle specifically contains the image of

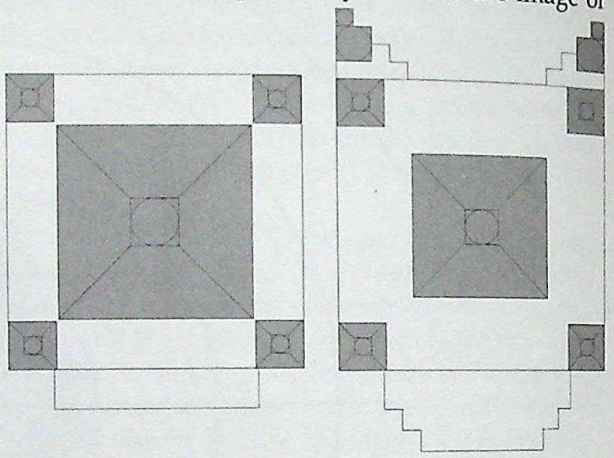


Figure 189: placement of the towers at *Mahabodhi*, Bodh-Gaya (left) and *Mahabodhi*, Pagan (right)

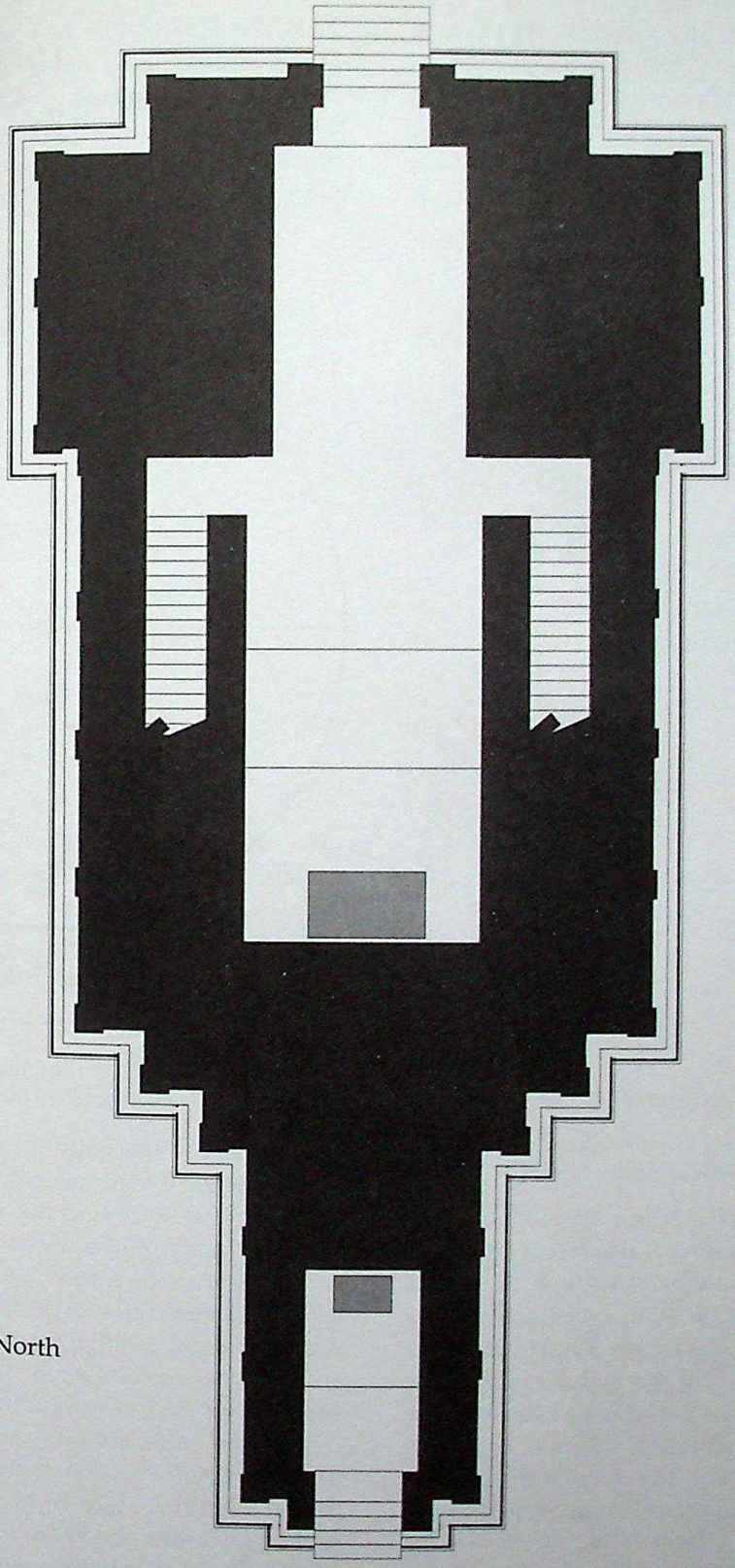
the western shrine, while the third circle encircles the western part of the main block and the internal stairways. The inner circle protects the main altar. The main shrine of the *Wat Chedi Chet Yot* does not, as can be seen, lend itself as readily or conveniently to the *mandala* grid as do a number of previously considered shrine ensembles from Thailand--e.g., *Wat Phra Si Rattana Mahathat*, *Wat Phra Ram*, or *Wat Ratchaburana*. This does not lessen the import of this shrine.

There are three numbers which are of importance: two, five and seven. Two, referring to the two Sinhalese *chedi*, denotes duality, contrast, polarity and diversity. This integer is a material number, as opposed to a divine number, and when applied to either the Arabic or Roman alphabet, it is considered as the number of creation, and the mother principle. As an even number, a female symbol two symbolizes the power principle, night, dark, left; and the moon. It is exemplified in: the concept of *Shakti-Shakta*; Two Actions (Pali: *kamma*); the Two Types of Gift Giving (Pali: *dana*); right-left; heaven-hell; day-night; two eyes, nostrils, breasts and testes; and the second of the five elements (*pancha-tanmatras*)--air or wind (*vayu, marut*). It is associated astronomically with the Moon (*Soma* or *Chandra*). The Moon, a prime feminine symbol is quite naturally assigned to the first feminine

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 75 -- *Chedi Chet Yot* (Central Shrine)



<<< North

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(even) number. Additionally, it represents the *Ajna Chakra*. Five, referring to the five square tower-forms (*chedi*), symbolizes magical properties, mental activity, intelligence, and the natural elements both positive and negative. This integer represents the natural man, is revolutionary and reduces all to the meaningful. It

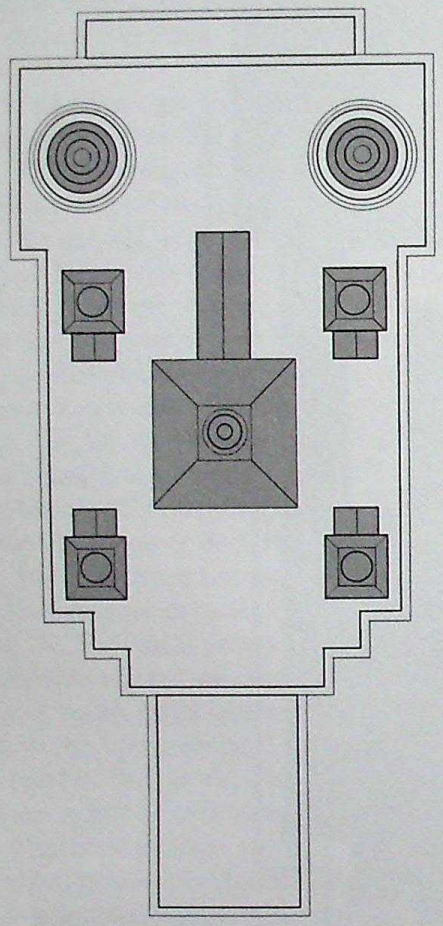


Figure 190: *Wat Chedi Chet Yot*, roof plan, indicating placements of *chedis*

is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Failings or Weaknesses being: *ahmkara, moha, lobha, kama, krodha;* the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra;* the five *skandhas;* the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Forces (Indic: *pancha-balani*); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: Ye-*shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: De-*bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major

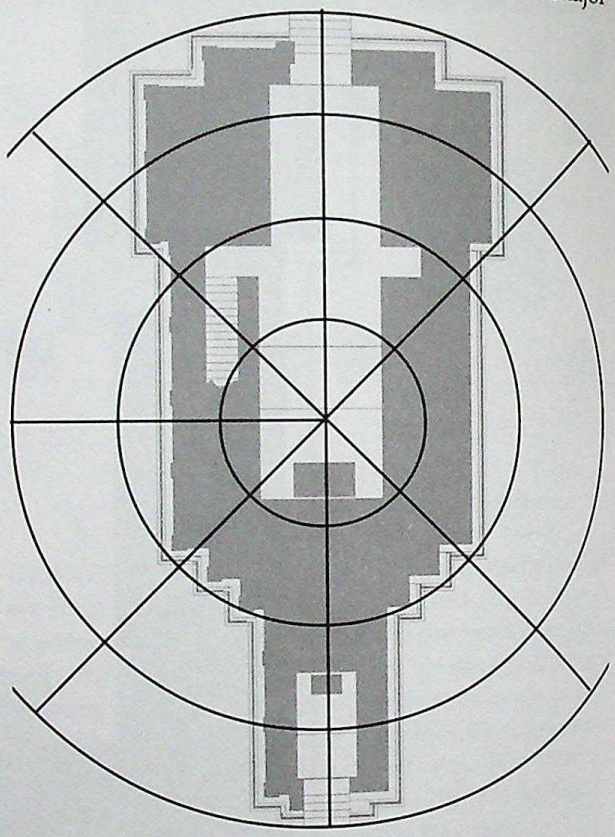


Figure 191: *Wat Chedi Chet Yot, chedi* block indicating circular *Manduka Mandala*

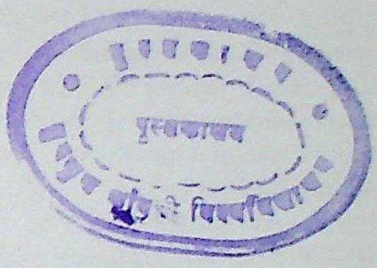
appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Seven, referring to the seven spires, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine), is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu;* the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

pull *Surya*'s chariot and the seven streams of *soma*; the *sapta-rishis*; an the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon).

The *Wat Chedi Chet Yot* underlines for the Thai kingdoms their ability to adapt for their own particular needs and aesthetic requirements. All of the cultures considered herein owe an enormous debt to India particularly as regards the development of their temple plans. Yet, Thailand, as the others, do not slavishly copy but transform. Their architectural production may be likened to a hybrid, relying on the mother plan (plant), but transforming itself into something of exceptional and different beauty.



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Phra Si Sanphet

Ayutthaya, 1491 CE

(SL)

The Wat Royale of Ayutthaya, *Wat Phra Si Sanphet*, like its Bangkok counterpart, *Wat Phra Kaew*, is or was not a *wat* in the strict sense of the word since it lacked the monks quarters (*sangha wat*). It was one of the four major *wats* within the city walls and has become a landmark that is synonymous with that city (kingdom) much in the same way that *Wat Mahathat* was for Sukhothai. This royal *wat* was first conceived by King Borom Trialok (Paramatrailokanatha) (1448-1488) and land was set aside on the site of the palace of Ayutthaya's first king, Ramathibodi I, and immediately to the south of the Grand Palace complex. The majority of the construction was overseen by King Ramathibodi II (1491-1529)[41] and Boromaraja IV (1529-1533). The three main, aligned *chedis* are said to contain the ashes of three kings--i.e., Borom Trialok, and his two sons Boromaraja III (1488-1491) and Ramathibodi II.[42]

The *wat* consists of a long, rectangular girdle wall--which on the south, west and part of the north side is doubled--of some three-hundred-ten by one-hundred-ten meters. The inner ensemble consists of four middling sized *chedis* in the four corners--intercardinal directions--of the compound. Between these *chedis* on the north side are eleven identical *viharns* bracketing ten, small, identical *chedis*. Along the south wall are ten, similarly identical *chedis* bracketing nine also similar small *chedis*--there is the space of one *viharn* and one *chedi* which for some reason had not been included. Along the narrow west wall, between the two middling *chedis* are two *viharn*, one each abutting the two *chedis* and similarly the same along the east wall with the addition of two small *chedis*. The total is: identical *viharns* numbering twenty-five, identical small *chedis* numbering twenty-one (sub-total : forty-six), and four middling *chedis* for a total of fifty.[43] The main *chedi* ensemble, axial *en plan*, consists of two *viharn*-like structures flanking a long access *viharn*. The latter gives way to a walled enclosure containing three *mondhops*, each followed by a large *chedi* and terminating in a *prasat*-style, cruciform *viharn* at the west end. It is of note that the style of the *chedis* are closer to the Sri Lankan ideal than the attenuated later ideal that is associated with this kingdom (See: **Appendix A, Plate 146**). Within the wall enclosing the three *mondhops* and three *chedis* are four additional smaller *chedis*, one in each of the four corners. In front of the *chedi* ensemble (to the east) is another *chedi*/shrine which rests inside the main portico of the whole. There are additional structures--i.e., *viharns* (two) and *chedis* (nine)--within the girdle wall at irregular intervals.

When considering the numerological implications there are several integers which are of importance: two, three, four, six, twenty-one, twenty-five and fifty. Two, referring to the flanking *viharn*-like structures at the east end, denotes duality, contrast, polarity and diversity. This integer is a material number, as opposed to a divine number, and when applied to either the Arabic or Roman alphabet, it is considered as the number of creation. It is exemplified in: right-left, heaven-hell, day-night; two eyes, nostrils, breasts and testes and as an even number, a female symbol and as such: moon (*Soma* or *Chandra*), night, dark, left. Additionally, it is represented by the *Ajna Chakra*.

Three, referring to the three *mondhops* and the three large *chedis*, signifies perfection, the trinity, the divine family (father, mother, child) and unity plus diversity which equals perfection (1 + 2 = 3). This numeral is considered to be the first masculine (odd) number and therefore has certain precedents as a vivifying force. As an odd number, three is a male symbol and further represents the idea principle, day, light, right and the sun. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati* or *Maha-Sarasvati, Maha-Lakshmi, Maha-Kali*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*).

Four, referring to the four smaller, corner chedis within the central ensemble and the four middling chedis in the wat's corners, connotes completeness, perfection, the practical element, worldly balance or order, and the creating fluid which is the soul of the universe. This numeral is the perfect

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

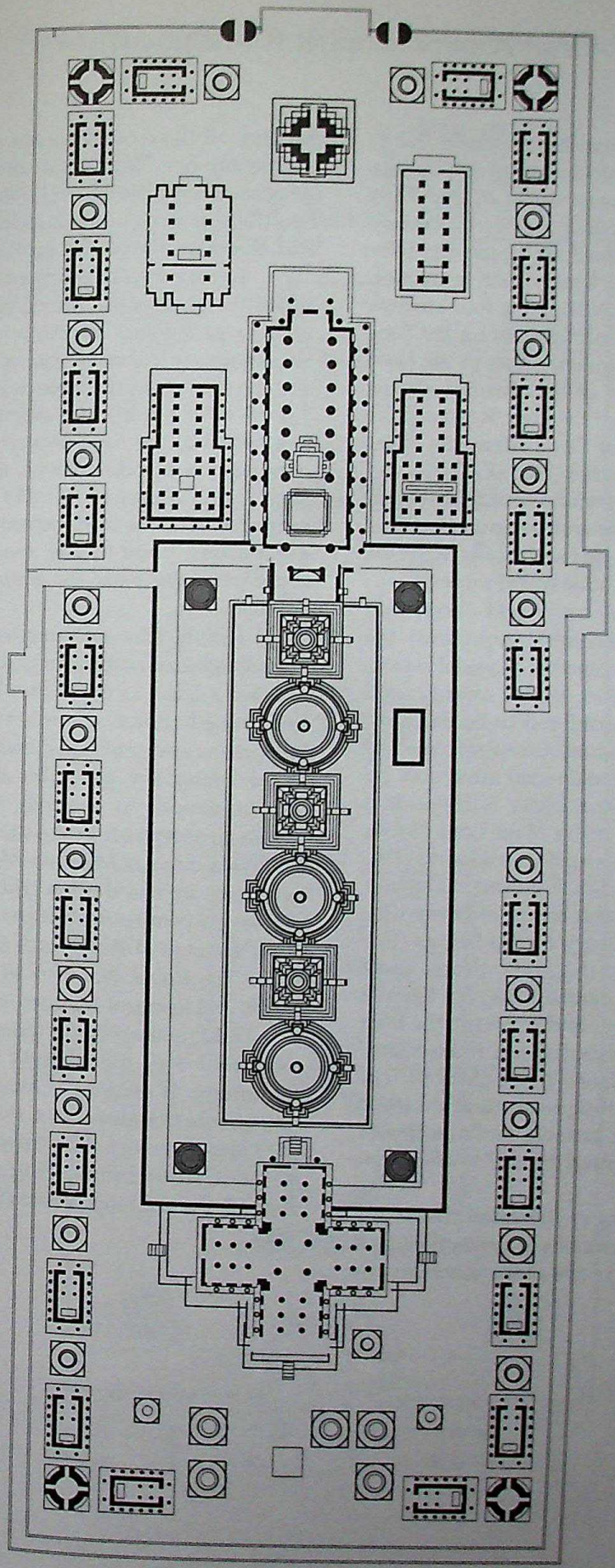


Plate 76 — *Wat Phra Si Sanphet*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

number of a higher plane, a number whose √ is 2. It is exemplified in: the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the four *Vedas*; the four *Pradharthas* being: *dharma* (virtue), *artha* (purpose), *kama* (pleasure), *moksha* (liberation); the four streams of milk from the heavenly udder creating the four sacred rivers; the *chakrasudarshana* (disc) of the Lord *Vishnu*; the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); the Four Seasons (Tib.: *Dus-bZhi Lha-mo*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); and the fourth of five elements (*pancha-tanmatras*)--water (*apa*); the cardinal directions; and the four phases of the moon. It is associated astronomically with the planet *Rahu* (the ascending node of the moon).

Six, referring to the combined *chedis* and *mondhops* of the central ensemble, represents the macrocosmic--the spiritual plus the material world; material beauty and comfort, divine charity; and balance. This integer is considered to be the most perfect number and the product of the first male and female numbers signifying universal attraction. As such, it is considered to be a lucky number. It is exemplified in: the *shatkona-chakra* of the Lord *Vishnu*; the Six Insights (Indic: *darshana*); the six *Chakras* (Tib.: *hKhol-lo*) being: *Muladhara, Svadhishthana, Manipura, Anahata, Vishuddha, Ajna*; the six acts (*shat-karmas*); the Six *Buddhas* (Tib.: *Thub-pa Drug*); the Six Beings (Tib.: *hGro-ba Rigs Drug*) being: the gods, titans, men, animals, monsters and the damned; The Six Crowns of Wisdom (Tib.: *rGyan drug*); and in nature the bee's comb, petals of a flower, snowflake. It is associated astronomically with the planet Venus (*Shukra*). The feminine (even) six representing beauty and attraction seems aptly assigned to the variable, feminine Venus. Additionally, it is represented by the *Svadhisthana Chakra*.

Twenty-one, referring to the small chedis just within the girdle wall, symbolizes perfection, and success. It is related to the cycles of the moon, in this instance all three numbers are masculine, as well as the twenty-one *Taras*. As a compound number it is associated with: the Moon (*Chandra* or *Soma*) and the Sun (*Ravi* or *Surya*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*).

Twenty-five, referring to the small viharns just inside the girdle wall, sacred and mystical magic as well as order and harmony. This numeral is an auspicious masculine integer, a number whose √ is 5, and the sum of mystic male numbers in succession (1 + 3 + 5 + 7 + 9 = 25). It is exemplified in the twenty-five *tattvas* of the *Samkhaya* school. As a compound number it is associated with the Moon (*Chandra* or *Soma*) and Mercury (*Budha*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *pada* for a *mandala*, the *Upapitha Mandala*.

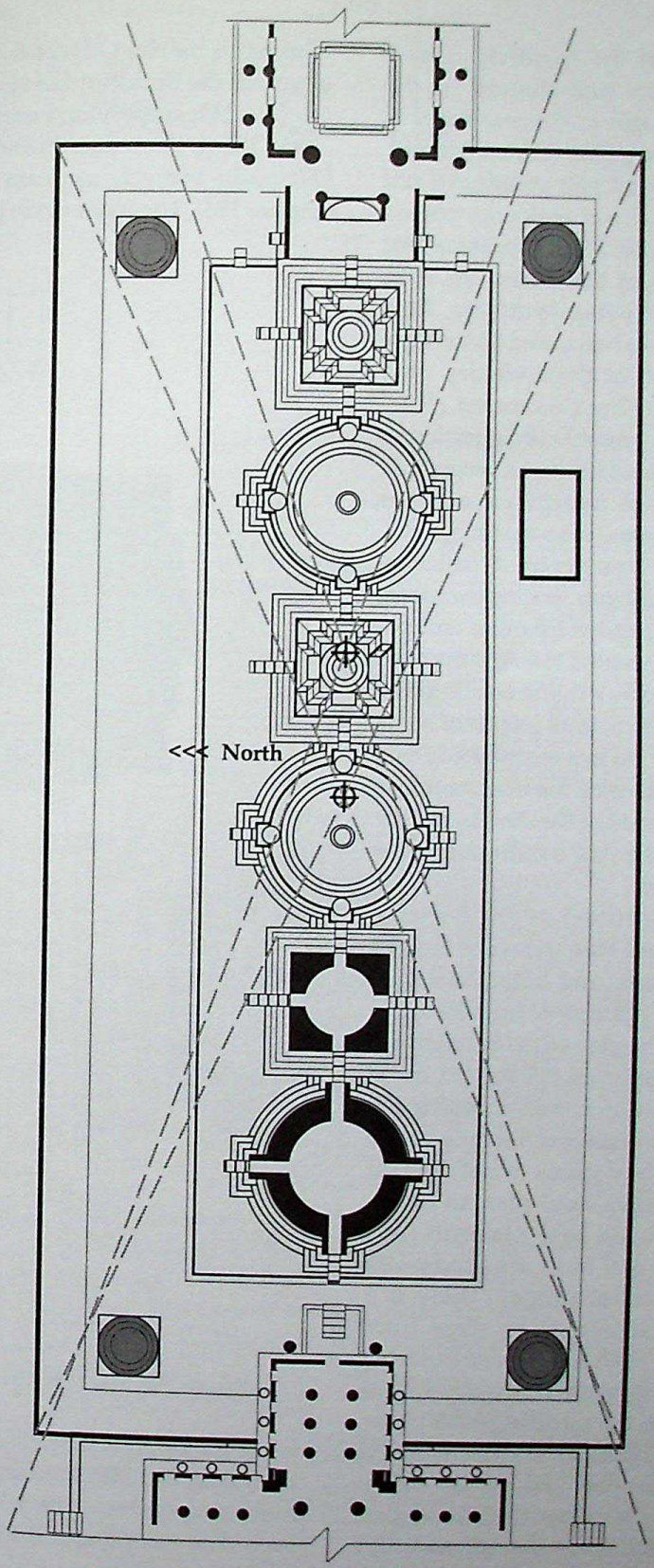
Finally, fifty, referring to the combined chedis and viharns just within the girdle wall, is a compound number related to the planet Mercury (*Budha*). It is half of one-hundred, a number which indicates plenty or a great number of items, and the age at which men cease monetary pursuits and enter a time of contemplation. As a whole, it does not easily fall within an acceptable grid pattern, neither does it lend itself to a circular *Manduka Mandala*. The individual structures are based upon grid structures, but not the whole or a combination of parts of the whole. In that sense the plan of *Wat Phra Si Sanphet* is aberrant.

The Royal *Wat Phra Si Sanphet* is one of the major architectural features of this most important city. Holding the relics of three kings, it solidifies in a corporeal way the majesty and grandeur of the monarchy. It ensemble awed not only the local inhabitants but also was a thing of exotic beauty to the various envoys who came to that city. As a wat without an accompanying monastery, it sets an example for the later period (See: **Appendix A. Plate 152).**

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 77 -- *Wat Phra Si Sanphet* (Central Shrines)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chedi Wat Phu Khao Thong

Ayutthaya, 1569 & 1745 CE

(SL)

The development of the Ayutthayan *chedi* form from the Sri Lankan bell-shaped to the attenuated form finds its apogee in size and shape in the *Chedi Wat Phu Khao Thong* (the Golden Mount). This *chedi's* history involves not only Ayutthaya, but Burma as well. The original *wat* was constructed somewhat earlier. In 1387-1388, King Ramesuan had commissioned the building of the *ubosot*. In 1569, while the Burmese were occupying Ayutthaya, King Boyinnaung (1550-1581) of Ava had raised a Mon style *chedi* as a commemoration of their victory over Ayutthaya.[44] Later, in 1745, King Boromakot (1733-1758) rebuilt the *chedi* to its present configuration. It is considered to be the largest of the major *chedis* built during the predominance of Ayutthaya, and has become somewhat synonymous with that kingdom.

The *Wat Phu Khao Thong* is by Ayutthayan standards rather middling and unimposing except for the soaring *chedi* which can be seen for miles around. The *wat* is axial *en plan* and oriented towards the east-northeast. The *wat* is enclosed by a rather erratic girdle wall (See: **Figure 192**) with an overall length of some two-hundred-thirty meters by one-hundred-fifteen meters at its widest part. Just inside the main entrance is a small *ubosot*, to the southwest of the *chedi* is a rather long *viharn*, and further still to the southwest, along the axes are four small *chedis*.

The *chedi*, first constructed by the Burmese as has been noted, rests upon a base terrace of uneven sides. The plan of the terraces, and indeed the base platform indicates not only a Burmese influence, but also links with *Borobudur*. The plan of the base terrace is in the form of a *pancharatha*, except for the north face which is in the form of a *triratha* causing the northern *raha-ratha* of the lowest terrace to be shortened somewhat. This gives what would normally be considered a cross-axial plan an erratic configuration. From this wide base platform rises three platforms or terraces. All three are *pancharatha* in form and support the *chedi* proper. There is a secondary platform, not accessible by steps from which the remainder of the *chedi* ascends. At this level there are four niches/shrines which normally would have been oriented towards the cardinal points of the compass. The *anda* is tall, elongated with redented corners giving it an elegant line. The *harmika* of the *Chedi Wat Phu Khao Thong* is rather well developed and prominent from which soars the tall and thin *chattravali*, the rings of which represent the thirty-three levels of the Buddhist heaven.

When applying a *mandala* to the *Chedi Wat Phu Khao Thong* three possibilities exist. First, a circular *Manduka Mandala* appears most applicable (See: **Figure 193**). The inner circle protects the *chedi* proper,

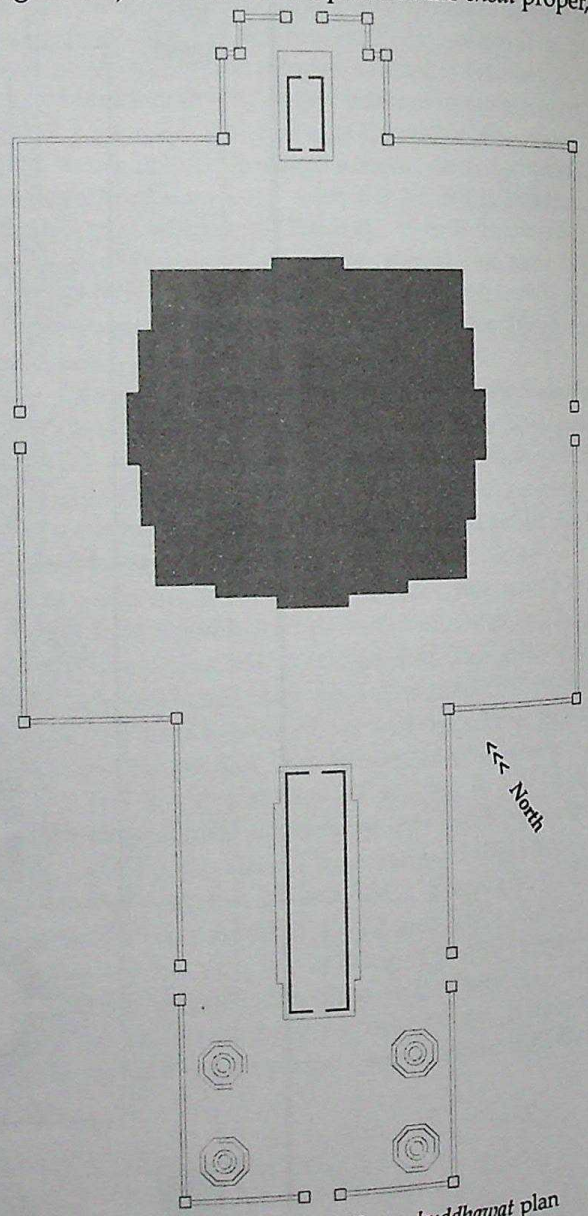


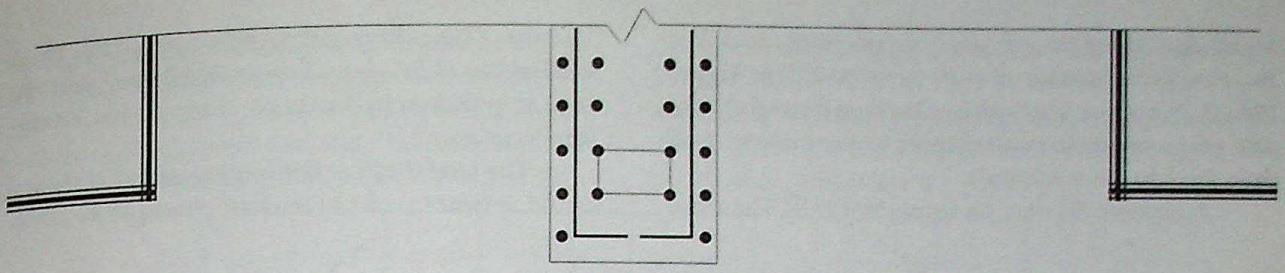
Figure 192: *Wat Phu Khao Thong, buddhawat* plan

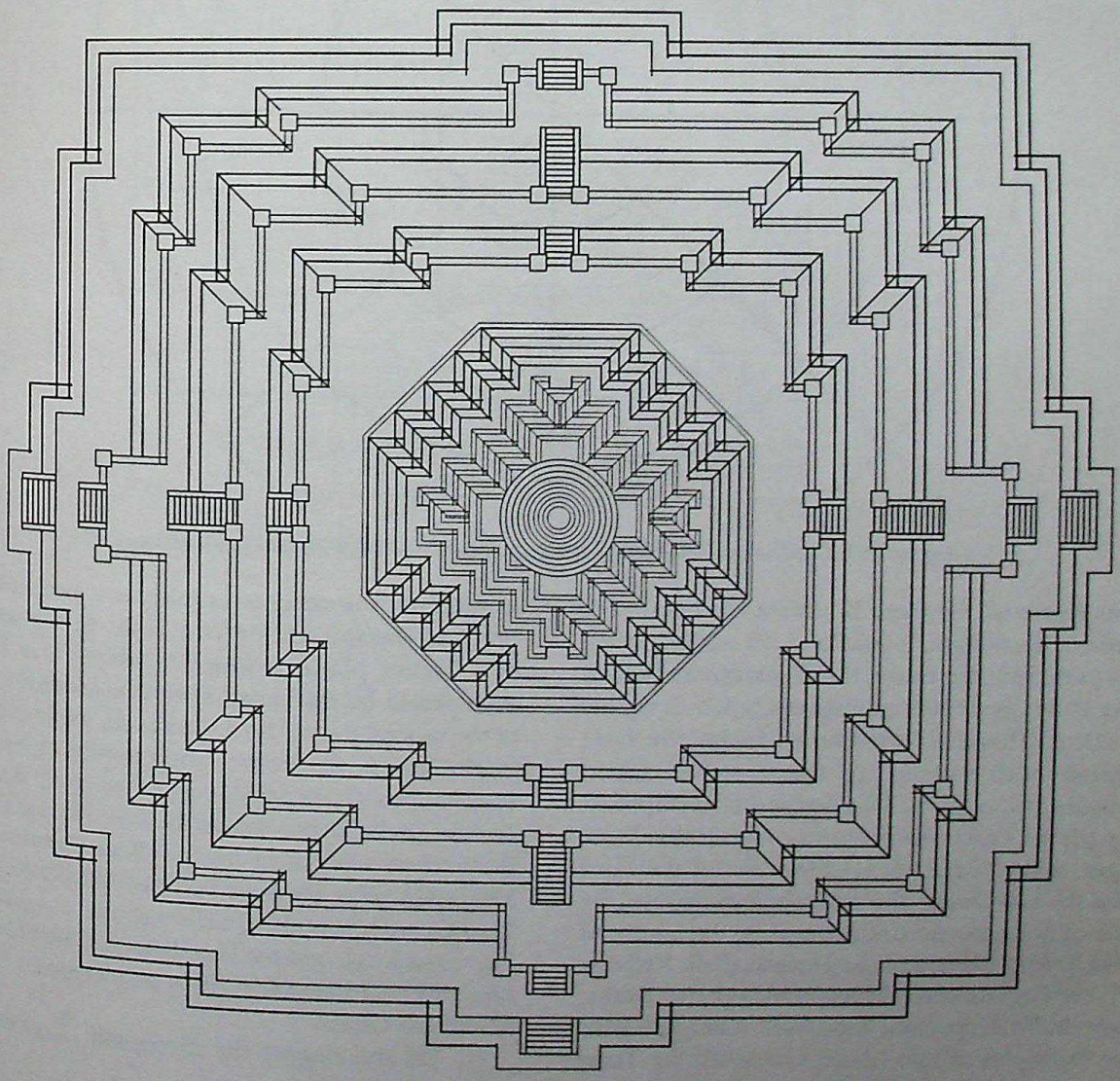
while the second circle enfolds the upper terrace. The third ring includes the upper three terraces and the outer ring encloses the whole, including the erratic base. The second and third *mandalas* are the square

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 78 -- *Chedi Wat Phu Khao Thong*





CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Manduka Mandala of sixty-four *pada* and the *Paramashayika Mandala* of eighty-one *pada* (See: **Figure 194**). Both appear applicable, although the eighty-one *pada* grid appears to possess more to recommend itself than the *Manduka Mandala*.

Numbers do play an important role. The three terraces represent the three Buddhist worlds (Indic: *Arupadhatu, Rupadhatu, Kamadhatu*). In addition they signify perfection, the trinity, the divine family (father, mother, child), and unity plus diversity which equals perfection. Three is considered to be the first masculine (odd) number and therefore has certain precedents. It is a sacred number and is exemplified in: the planet Jupiter (*Brihaspati* or *Guru*), the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); the trinity of *Brahmá, Vishnu, Shiva; trishula; Tripitaka* (Pali: *Tipitaka*); The Three Regions or the Three Worlds (Indic: *Triloka)* namely (Indic: *Arupadhatu, Rupadhatu, Kamadhatu*); the Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three *Bodhisattvas* of Wisdom, Power and Mercy; and the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*.

The four *chedis* at the southwest end of the wat would appear to refer to the four phases of the moon.

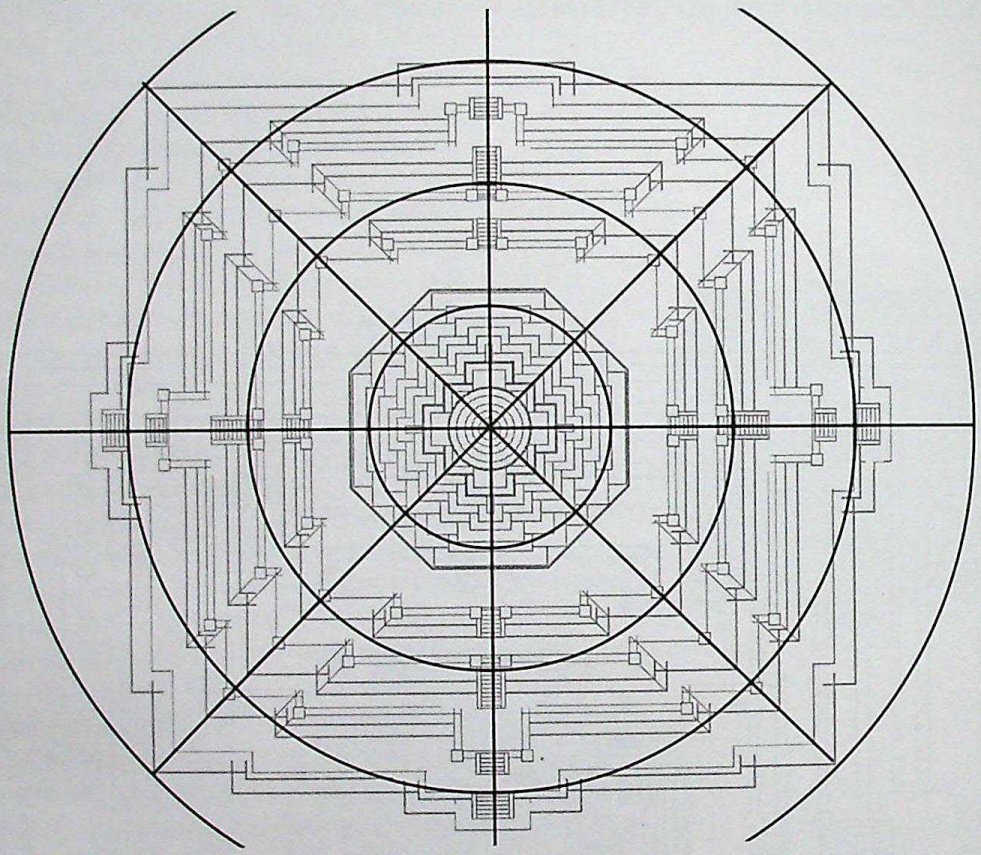


Figure 193: *Chedi Wat Phu Khao Thong,* indicating circular *Manduka Mandala*

In addition, four denotes completeness, perfection, the practical element and order. It is the perfect number of a higher plane, a number whose √ is 2. It is exemplified in: the planet *Rahu* (the ascending node of the moon), the cardinal directions; the four phases of the moon; the Four Fundamental or Sublime Meditations (Indic: *chatur-appamannaya*); the Four Trances (Indic: *chatur-jhana*); the Four Psychic Powers (Indic: *chatur-iddhipada*); the Four Basic Elements (Tib.: *hByung-ba bZhi*); the Four Bodies (Tib.: *sKu-bZhi*); the Four Guardians of the Quarters (Indic: *Lokapala*, Tib.: *Phyogs-sKyong*); and the Four Seasons (Tib.: *Dus-bZhi Lha-mo*). Additionally, it is represented by the *Muladhara Chakra*.

Tall and elegant, the attenuated *Chedi Wat Phu*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chedi Wat Phu Khao Thong (Concluded)

Khao Thong stands midst its flat riverine surroundings, isolated as a sentinel to the northwest of Ayutthaya. The *Wat Phu Khao Thong*, surrounded by a moat, soars upwards and represents the style that has become associated with that kingdom, and one which later dynasties emulated, particularly the *Rattanakosin*. No longer influenced by the Khmer models, it exemplifies a type, a style that is essentially Thai, a synthesis and development which some see as artificial, but, nonetheless, embodies the period.

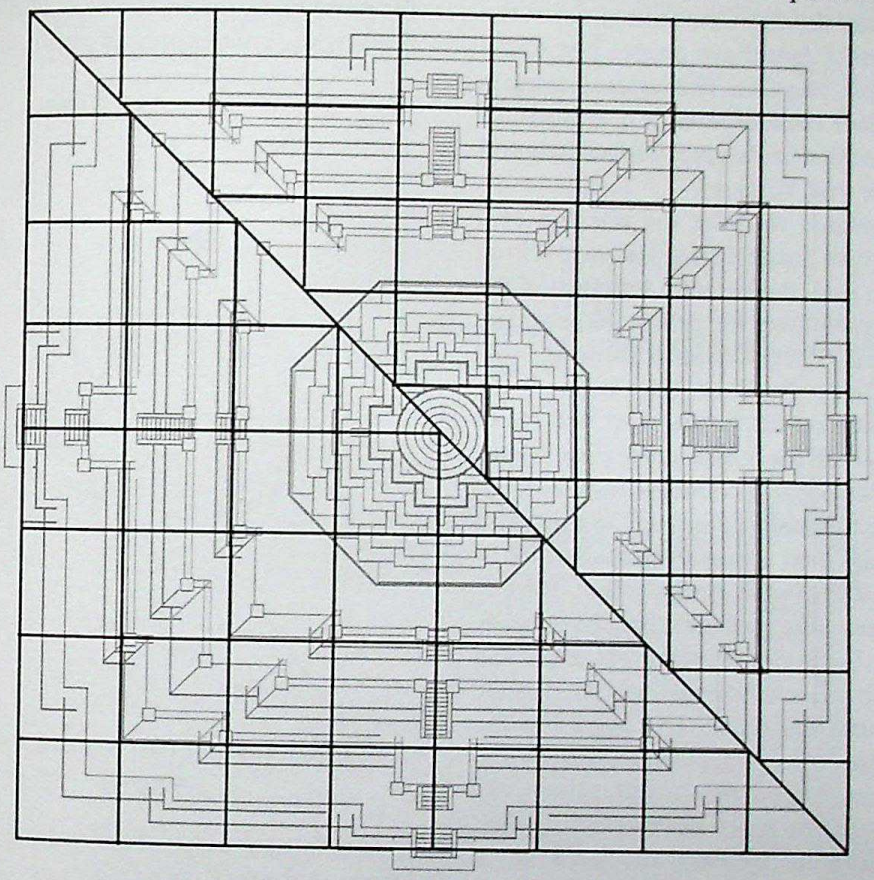


Figure 194: *Chedi Wat Phu Khao Thong,* indicating sixty-four and eighty-one *pada* grid

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Chai Watthanaram

Ayutthaya, 1630 CE

(SL)

Wat Chai Watthanaram built by the devout King Phrasat Tong (Prasada Tong) (1629-1656). Devout, but not disinclined to raise a temple that not only indicated his piety, but also to underpin his royal prerogatives,[45] this *wat* is a Thai mirror to the edifices erected by the Khmer *devaraj*. Constructed not in the established confines of Ayutthaya proper, but across the river to the west, *Wat Chai Watthanaram* mirrors the cross-axial Khmer counterparts. It is a model of the Buddhist cosmos that finds a parallel in the central ensemble of *Angkor Wat*, Angkor.

Oriented towards the east, the *wat* was also fronted by the river underlying its auspicious character. Axial, *en plan*, the primary entrance of the *wat* is the river--representing the primordial sea. The girdle wall surrounds the ensemble on the north, west and south sides. There are three gates through the girdle wall, one each on the north, west and south faces, all on an axis with the central *prang* (See: **Figure 195**). The first elements one encounters from the river are two *chedis*--one to the north and one to the south of the east-west axis. Next a *viharn/ubosot* which is in an advanced state of decay, nonetheless, it is of substantial size, measuring well over forty-five meters in length. This *viharn/ubosot* intersects a second enclosing wall with redented corners which, in turn, surrounds the central ensemble. This wall and the central ensemble are cross-axial *en plan*. This central ensemble is set upon a raised terrace and consists of a *phra rabiang* with eight towers at the cardinal and intercardinal points of the compass. The inner face of the *phra rabiang* is double colonnaded on all four inner sides, fourteen ranks of columns on each of the four faces (at the cardinal points). Centered is another terrace from which a *prang* springs. It possesses a cella with egress to the cardinal points of the compass. On the corners of this *prang* terrace are four smaller *chedis* oriented as they are to the intercardinal points.

The cross-axial *phra rabiang* appears eminently suited to either a *Manduka Mandala* or a *Paramashayika Mandala* (See: **Figure 196**). In both cases the central shrine is enclosed within the *Brahmásthana*. In the *Manduka Mandala* the four *chedis* of the central ensemble fall comfortably within the realm of the secondary deities. In applying a circular *Manduka Mandala* to the plan of *Wat Chai Watthanaram* (See: **Figure 197**) one sees that the whole of the ensemble, including the *phra rabiang* is included within the outer circle--it is to be noted that the same circular *mandala* applies to the central ensemble and the encircling, redented wall as well. The second circle included the towers of the cardinal points as well as the double ranks of columns, whereas, the third circle encloses the *prang* platform and its four *chedis*. The inner circle protects the *prang* upon its plinth.

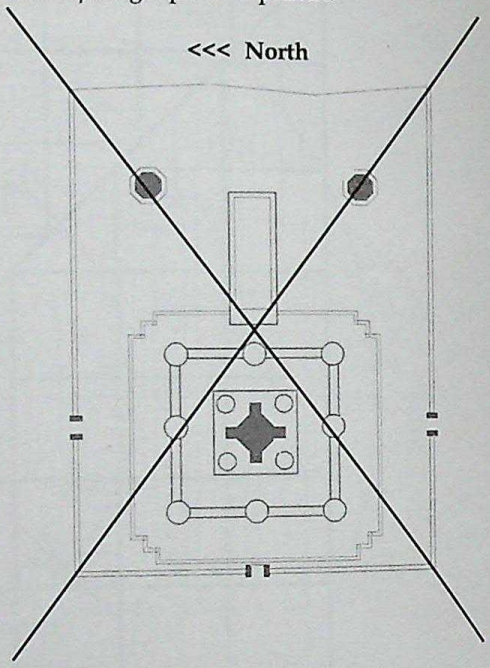


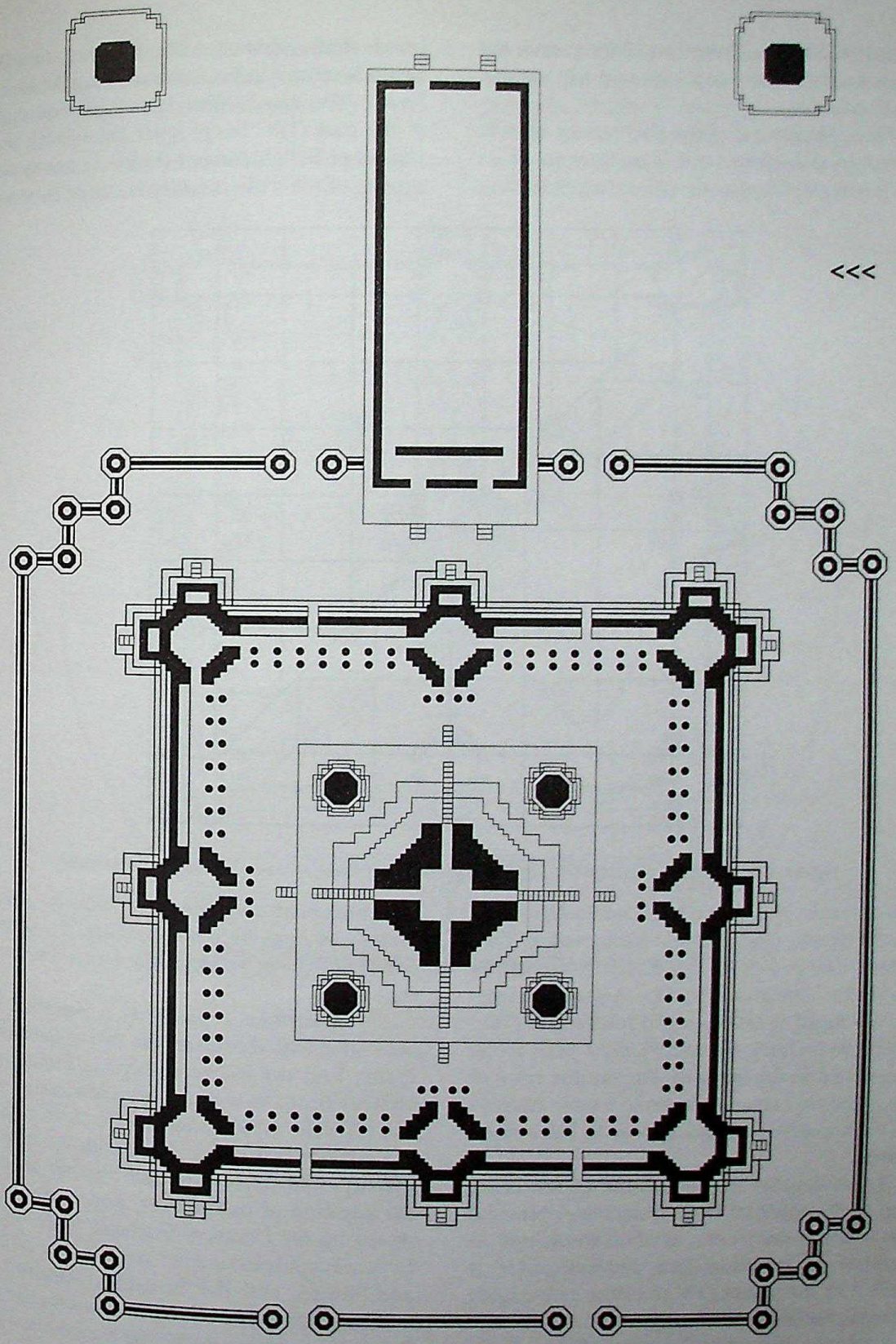
Figure 195: *Wat Chai Watthanaram, wat* ensemble indicating cross axes

To arrive at the central *prang*, one must pass through three walls or barriers--i.e., the outer girdle wall, the inner redented enclosure and the *phra rabiang*--which provide an apt symbol for the three worlds of the Buddhist faith (Indic: *Arupadhatu, Rupadhatu, Kamadhatu*). In addition these three elements also allude to the Three Refuges of the Theravada tradition being the Lord *Buddha* , the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*) as well as the *Tripitaka*. In addition, three connotes: perfection, the trinity, the divine family (father, mother, child), and unity plus diversity which equals perfection. Three is considered to be the first masculine (odd) number and therefore has certain precedents. It is a sacred number and is exemplified in: the planet Jupiter (*Brihaspati* or *Guru*), the Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 79 -- *Wat Chai Watthanaram* (Central Ensemble)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bodhisattvas of Wisdom, Power and Mercy; and the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*.

The eight towers of the *phra rabiang* refer to perfection, good fortune, and is auspicious in its makeup. It is exemplified in: the planet Saturn (*Shani*), Jewels (Indic *Saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Mothers (Indic: *Saptamatrikas*); Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the Seven Factors of Enlightenment (Indic: *Satta-bojjhanga*); the seven sites of *Buddha's* meditation after

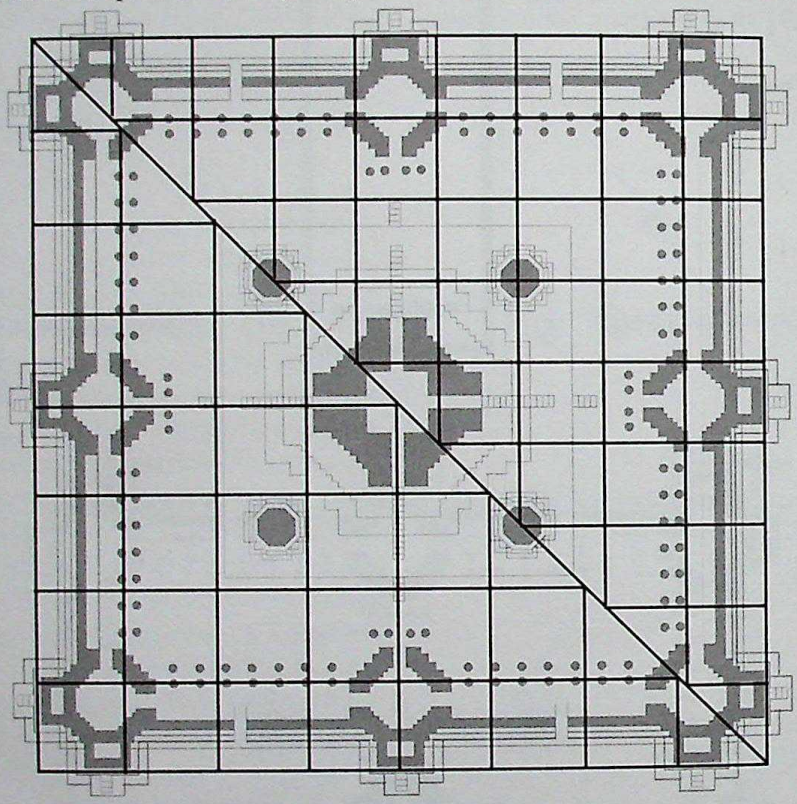


Figure 196: *Wat Chai Watthanaram,* indicating *Manduka Mandala* and *Paramashayika Mandala*

Manduka-mandala; the Eight *Mahabodhisattvas*; the Eight Great *Stupas* (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); the sacred eight petal lotus; and represented in the octagon. The double rows of columns of the *phra rabiang*--seven to a rank, twenty-eight in each quarter--would appear to have some significance.

Seven denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine) and is often considered as the number of creation and perfection. It is exemplified in: the planet *Ketu* (the descending node of the moon), the seven Hindu planets; the seven days of the week; the phases of the moon; Seven Royal Enlightenment; and within the *Vedas*: the seven wives (sisters) of *Agni*, his seven tongues, the seven horses which pull *Surya's* chariot, the seven streams of *soma*, etc.

Fourteen represents a number of luck, associated with the full moon, two of the moon's four cycles; and the fourteen Psychic Functions (Pali: *Vinnana-kicca*), as well as being associated with: the Sun (1), Rahu (4) and Mercury (5). And, twenty-eight is a number that is associated with the moon's cycle (twenty-eight days), a perfect number arrived at by the addition of its divisors, and a number which represents the Planes of Existence (Pali: *Bhumi*). It is further auspicious as it is a combination of the Moon and Saturn, and the Sun. One-hundred-twelve, referring to the total number of columns: one equaling the source \ twelve signifying the cosmic number. It

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Chai Watthanaram (Concluded)

is exemplified in: the number of the *Gyantse Kumbum* chapels. In addition there are one-hundred and twelve major and minor signs that are the recognizable in an Enlightened One.

These areas, these realms all lead to the central *prang*--a manifestation in stone and brick of Mount Meru, the sacred Buddhist realm. Modeled after the Khmer sacred temple mounts, but lacking the dramatic, high ascending terraces, *Wat Chai Watthanaram* lifts it *prang* to a height that could be easily seen from across the river, and therefore establishing its pride of place.

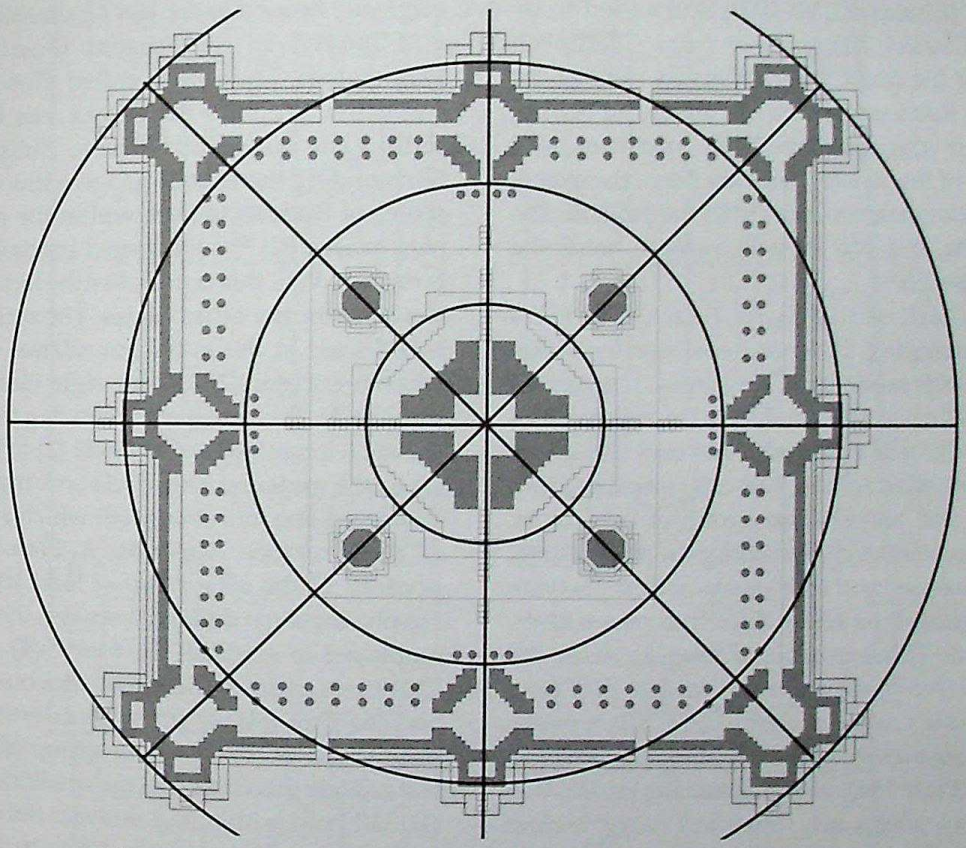


Figure 197: *Wat Chai Watthanaram,* indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wat Phra Chetuphon Wimonmangkhalaram

Bangkok, b. 1768 CE

(KM)

Of all the temples of Bangkok, *Wat Phra Chetuphon Wimonmangkhalaram* (aka *Wat Phra Chetuphon, Wat Pho Chetuphon* or *Wat Pho*), a royal temple of the first class, holds a special place in the hearts of not only the residents of that city, but, indeed the whole populace of Thailand as well. Built on the site of the older *Wat Potaram* (*Wat Bodharam*), first by King Rama I (Chakri) (1792-1809) and added to by successive Chakri Kings, *Wat Phra Chetuphon* (Monastery of the *Bodhi* Tree) attains its rank as the quintessential Rattanakosin *wat* not merely for its size, but more for the quality--both spiritual and architectural--of the whole. *Wat Phra Kaew*, the chapel royale of the Rattanakosin, may hold the palladia, the *Emerald Buddha*, but *Wat Phra Chetuphon* holds the hearts of the people.

Just south of the *Grand Palace*, *Wat Pho's* ensemble is complex. Oriented east-northeast the temple complex is made up of two areas. The eastern area within which is the *ubosot*[46] is an ensemble of some complexity which includes not only the *ubosot* with its double *phra rabiang* but also one-hundred-fifteen *chedis* and *prangs*--four group-of-five *chedis*, seventy-one smaller *chedis* encircling the *phra rabiang*, twenty *chedi rabiang* and four *prangs* within the *phra rabiang* courtyard--four *viharn thits*, four *viharn khots*, and eight *salas*. This ensemble is roughly axial, the four group-of-five *chedis* are offset so that they may fit within the *wat's* rather eccentric area. The western section[47] holds the *viharn* of the Reclining *Buddha* (See: **Appendix A, Plate 154**), *ho trai*, a *sala kan parian*, two *ho rakheng*, two *viharn noi*, four *chedi luang*, a *chedi rabiang*, eight *salas*, one Chinese-style pavilion, one European-style pavilion and a shrine with the sacred *Bo* (Indic: *bodhi*) (*Ficus-religiosa*) Tree. This area is, too, roughly axial, especially the four *chedi luang*, the *ho trai* and the *chedi rabiang*. The whole is surrounded by a high girdle wall which also extends to separate the *ubosot* area from the *viharn* area. The rather extensive monks area (Thai: *sanghawat*) is to the south of the whole.

The *ubosot* ensemble--including the four *prangs*, the double *phra rabiang* and surrounding *chedis*--requires special attention for a number of reasons. Unlike the majority of Rattanakosin *wats*, the *ubosot* of *Wat Phra Chetuphon* is, by its sheer size and the surrounding ensemble, physically the most impressive structure of the whole *wat* ensemble (See: **Figure 198**; see also: **Appendix A, 153**). In a number of other *wats*, the *viharn* appears to take predominance.[48] In addition, Aasen likens this area, the *buddhawat*, particularly with its double *phra rabiang*, to a *mandala*[49] and indeed it does possess all the requisite requirements.

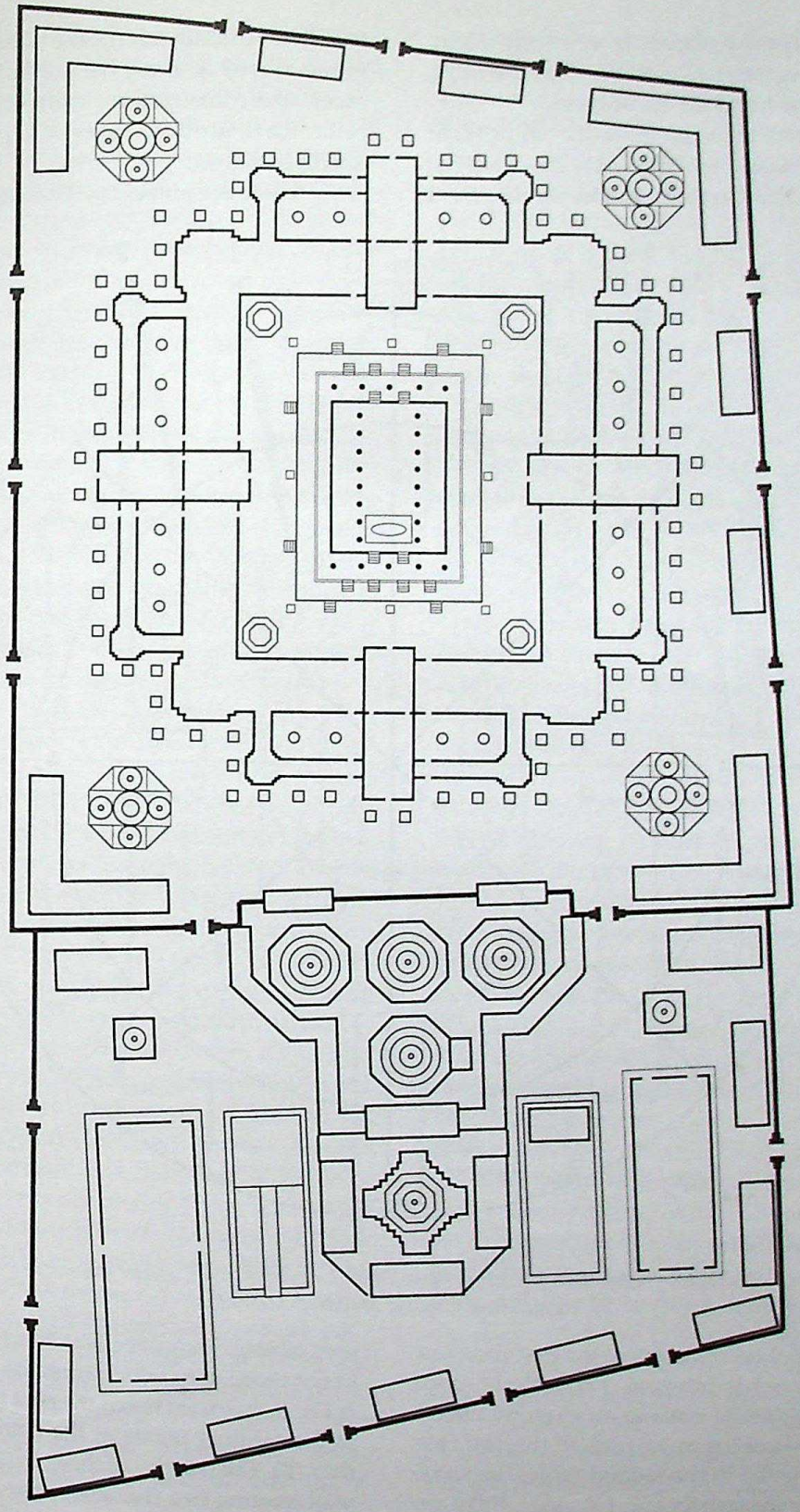
The central image--i.e., a *Buddha* figure originally housed in the *Wat Khuha Sawan*, Ayutthaya, and moved to its present location from *Wat Phasicharoen*, Thon Buri--called *Phra Phuttha Thewa Patimakon*, becomes the sacred axis from which all within the *buddhawat* derive their *raison d'etre*. Surrounding the central image within the ubosot are scores of Buddha images within the encircling inner *phra rabiang* (**C**).[50] If the sacred precinct, the cella (**A**), is encircled (**1**), this establishes the locus of power and the basis for the other circles. The second circle (**2**) is established at the outer boundaries of the *bai sima* (shown in **Figure 198** as the eight clear squares). The third circle (**3**) is established utilizing the distance from the arc (circumference) of circle (**1**) to the arc of circle (**2**) as the measure. This circle encompasses the inner courtyard, the four *prangs* (**E**) which mirror the *prang* of *Wat Arun* (See: **Appendix A. Plate 155** & **156**) and portions of the *viharn thit*--at least half of the latter. Finally, the same distance between the circles is again employed to establish the fourth (**4**), or outer circle. This circle encloses the *ubosot*, the four *viharn thits* (**B**) and the *phra rabiang* (**C** & **D**) as well as the twenty *chedi* (*rabiang*) (**F**). The four group-of-five *chedis* (**G**) rest outside this circle and the smaller encircling *chedis* (**H**) fall both within and without the outer ring. The Brahmanic influence upon the court of Thailand can be seen in the design of the important temples. The four *viharn thits* oriented as they are to the cardinal points (considering, of course, that the *wat* is not truly oriented to the east) and the four *prangs* (**E**) of the inner courtyard oriented to the intercardinal points plus the four imposed circles mirror the circular *Manduka Mandala* as well as the city plan proposed by Manasara (See: **Plate 5**). The coincidences of these circles cannot be dismissed as merely a fortuitous happenstance. Sacred architecture has always been derived from and employed symbols of various kinds and quantity.

The numerical considerations as applied to *Wat Phra Chetuphon* are indeed myriad. Only the ubosot ensemble is here considered. There are eleven

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 80 -- *Wat Phra Chetuphon Wimonmangkhalaram (buddhawat)*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

numbers which appear: three, five, seven, eight, fourteen, sixteen, eighteen, twenty-four, twenty-eight, forty-eight and one-hundred-and-twelve.

There would also seem to be important numerical considerations with regard to the *ubosot* (**A**) of *Wat Phra Chetuphon*. On the outset the employment of an odd number of columns across the east and west façades of the *ubosot* is unusual, particularly since most *viharns* and *ubosots* possess an even number.[51] The seven columns of the outer rank of the east face are mirrored by seven in the second rank. The same holds true for the western façade. Likewise, there are fourteen columns along the southern flank of the *ubosot* as well as along the north. In total the *ubosot's* outer area contains forty-eight columns. Within the cella, there are two rows of eight columns each, totalling sixteen.

There are numerous Thai *wats* which possess a *phra rabiang*,[52] however, *Wat Phra Chetuphon* is the only major monastery which contains a *doubled rabiang* (C & D). As has been noted the *phra rabiang* is intersected at the cardinal points of the compass by four *viharn thits* (**B**). The interior of these *viharns* are divided by a wall creating two chambers--one facing outward, the

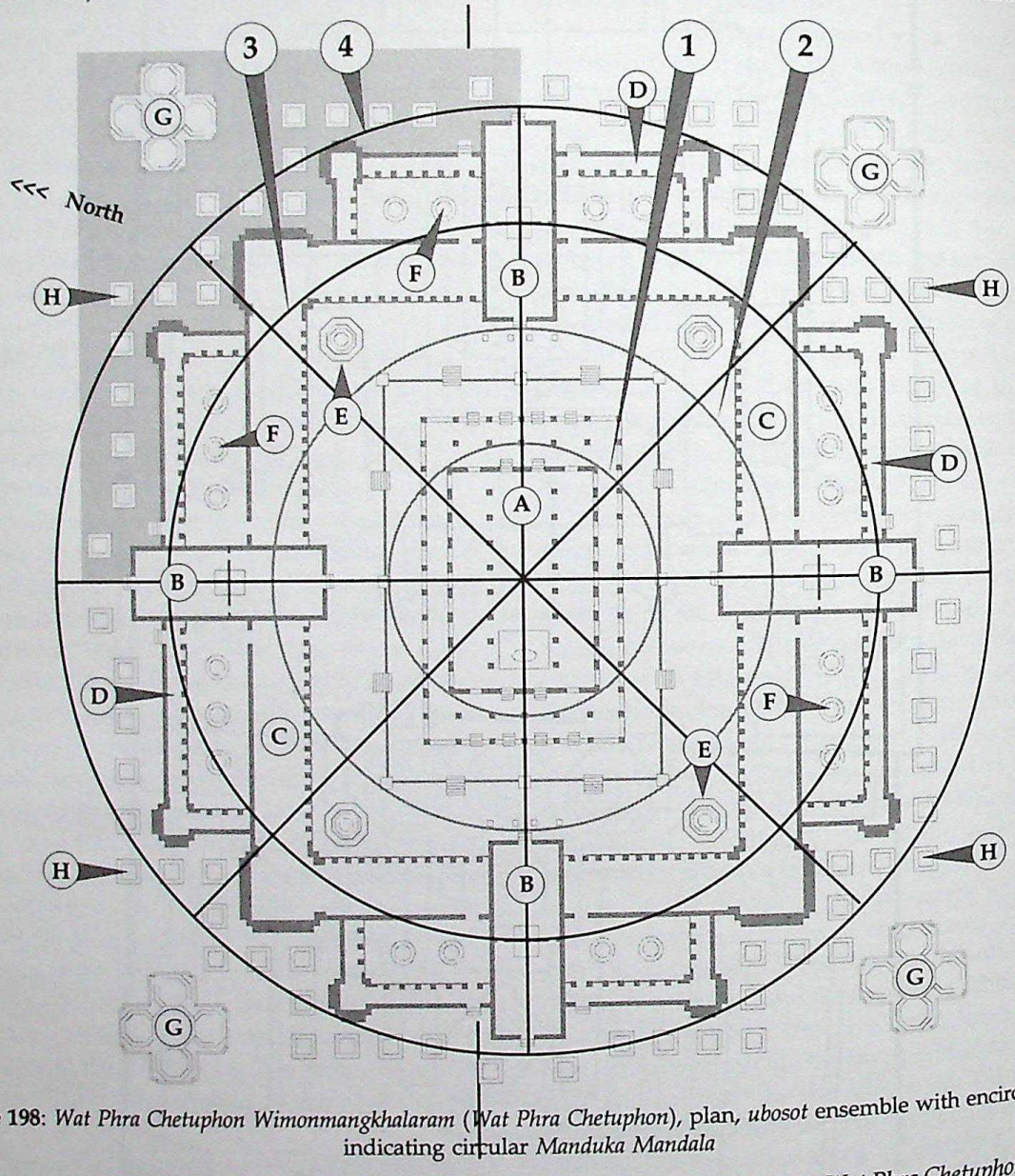


Figure 198: *Wat Phra Chetuphon Wimonmangkhalaram* (*Wat Phra Chetuphon*), plan, *ubosot* ensemble with encircling *chedis* indicating circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

other inward towards the inner courtyard. Each of the eight spaces contain images of the Lord *Buddha*. The cloistered walk of the inner court (C) contains one-hundred-twelve supporting columns--each quarter possessing twenty-eight. The outer *phra rabiang* (D) contains ninety-six columns--ten columns in each of the east-west quarters and fourteen in each of the north-south quarters--twenty-four in each intercardinal quarter.

Finally, there are the *chedis* which are associated with the *ubosot* of *Wat Phra Chetuphon* to be considered. Their presence and number are not merely for the purposes of design nor to embellish a royal *wat* of the first degree. There are twenty *chedi* (*rabiang*) (F)--two each in the four east-west *phra rabiang* courtyards and three each in the four north-south *phra rabiang* courtyards--five in each quarter. Seventy-one smaller *chedis* (H) encircling the *phra rabiang*--eighteen in each quarter except the southeast quarter where, due to constraints of space one has been usurped by a four group-of-five *chedis* (G). The four group-of-five chedis are nominally placed in the intercardinal points.

Three, referring to the *chedi* in the *phra rabiang* courtyards, denotes perfection, the trinity, the divine family and unity plus diversity which equals perfection. It is the most sacred number within the Hindu faith. It is exemplified in: the trinity of *Brahmá, Vishnu, Shiva*; the trinity of *Sarasvati, Lakshmi, Parvati*; *trishula*; the Three Regions or the Three Worlds (Indic: *triloka*); the Three Cities (Indic: *tripura*); the Three Times (*kála*); the Three Forces (*guna*); the *trivarga* (objects of human pursuit); the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*; the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the *Trikaya* system; *Tripitaka* (Pali: *Tipitaka*); the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the *dharma*; (Pali: *dhamma*) (the law), the *sangha* (the community of monks); and the third of the five elements (*pancha-tanmatras*)--fire (*tejas, agni*). It is associated astronomically with the planet Jupiter (*Brihaspati* or *Guru*). Five, referring to the four groups of five *chedis*, denotes magical properties, mental activity, intelligence, and the natural elements both positive and negative. This integer represents the natural man, is revolutionary and reduces all to the meaningful. It is created from the masculine three and the feminine two and, therefore, to many represents love, the union of the masculine and the feminine. It is exemplified in: the Five Subtle Elements (Indic: *tanmatras* or *pancha-tanmatras*); the Five Sense Particulars (Indic: *panchabhutas* or *mahabhutas*); the Five Truths (Indic: *pancha-tattva*); the five "M's" (*Panchamakara*) of the *vamanachara Tantra*; the five *skandhas*; the Five Evolutes of *Maya* (*pancha-kanchukas*); the Five-Headed *Hanuman* (Indic: *Panchamukha Hanuman*); the five senses (Pali: kamaguna); the Five Sense-stimulating Objects (Tib.: *hDon-yon sNa-lNga*); Fivefold Transcendental Wisdom (Tib.: *Ye-shes lNga*); the Five Sisters of Long Life (Tib.: *Tshe-ring mChed-lNga*); the Five Buddhas (Indic: *pancha-Buddha*), the Five Mystics (Indic: *pancha-tathagata*, Tib.: *De-bZhin-gShegs-pa*); the Five Protectresses (Indic: *pancha-raksha*, Tib.: *bSrung-ma lNga*); the five fingers of the hand, the five toes of the feet as well as the five major appendages of the body--head, arms and legs; and the fifth of the five elements (*pancha-tanmatras*)--earth (*kshiti, prithvi*). It is associated astronomically with the planet Mercury (*Budha*). Seven, referring to the number of columns across the façades of the *ubosot*, denotes the sacred, is often considered as the number of creation and perfection, as well as natural law. It is exemplified in: the seven Hindu planets; the seven days of the week; the phases of the moon; the Seven Mothers (Indic: *Saptamatrikas*); the *sapta-dhatu*; the Seven Factors of Enlightenment (Indic: *satta-bojjhanga*); the *sapta-rishis*; and the mytho-geographic: *sapta-loka* (seven worlds), *sapta-para* (seven cities), *sapta-dwipa* (seven sacred islands), *sapta-arania* (seven deserts), *sapta-samudra* (seven holy seas); the Seven Royal Jewels (Indic *saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the seven sites of Buddha's meditation after Enlightenment; and the Seven Noble Treasures (Pali: *ariyadhanna*). It is associated astronomically with the planet *Ketu* (the descending node of the moon). Eight, referring to a row of columns within the cella, is a number of perfection, good fortune, and is highly auspicious. It is exemplified in: the eight forms of the Lord *Shiva*; the Eight Treasures (*ashta-niddhi*) of *Kubera*; the Eight Mothers (*ashta-matrikas*); the Octave of *Prakriti* (the elemental nature); the eight deities of speech (*ashta-Vagdevatas*); the Eight Secret Deities (*ashta-rahasaya-yogini* or *ashta-vag-devata*); the Eight Fundamental Urges; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.:

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

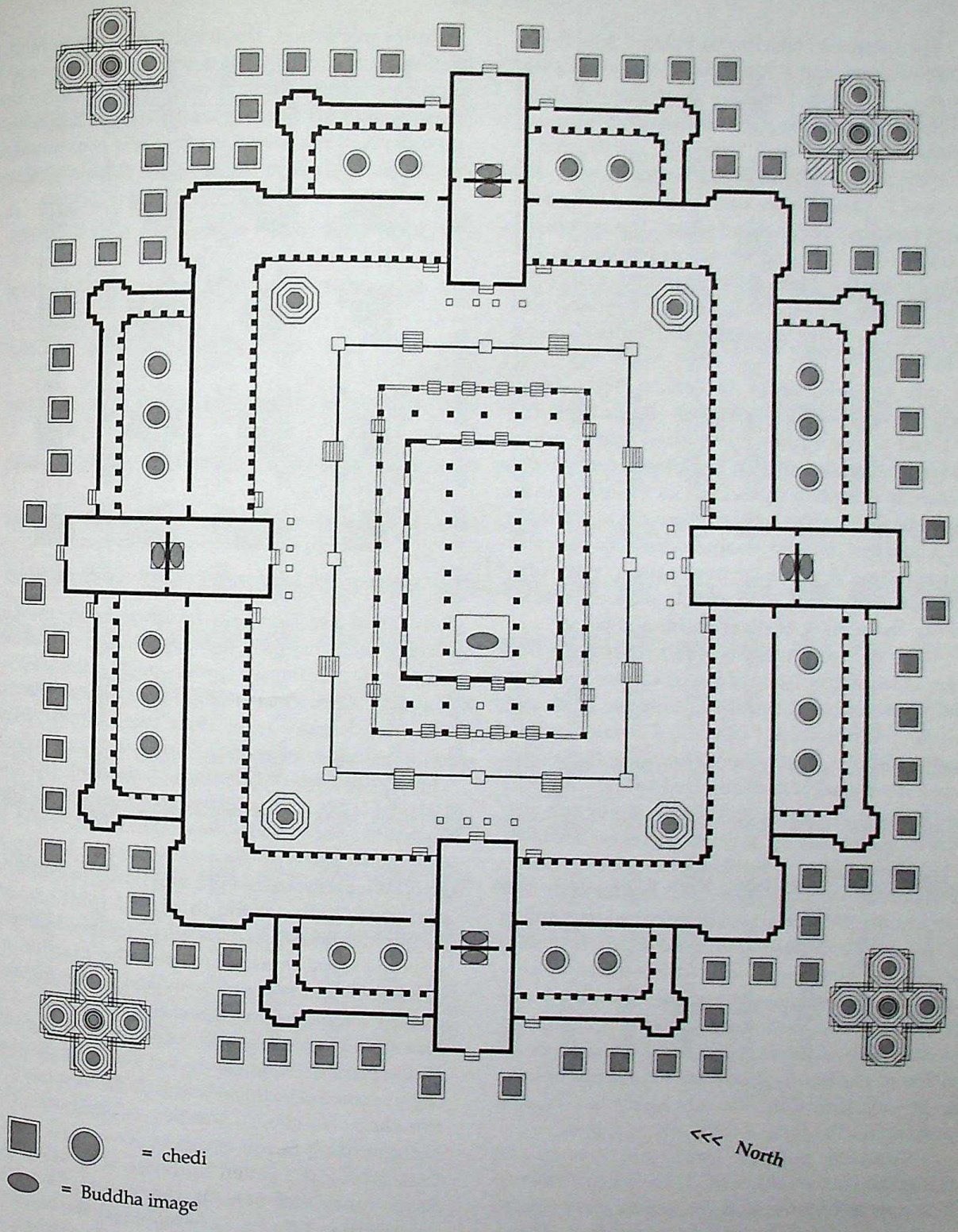
mChod-rten-Che brGyad); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the sacred eight petal lotus. It is associated astronomically with the planet Saturn (*Shani*). Fourteen, referring to the columns across the front and rear of the *ubosot*, denotes involution, transmutation and relates to sexual relations. This integer is a number of luck. It is exemplified in the full moon, two of the moon's four cycles (waxing and waning); the *chaturdasha nadis*; the *Chaturdasha-dala trikona (Sarva Saubhagya-Dayaka Chakra of the Shri Chakra)*; the Fourteen *bhuvanas*; the fourteen-triangle figure of the *Shri Chakra* (*chaturdasha kona*); and the fourteen Psychic Functions (Pali: *vinnana-kicca*). As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces five and, therefore, the planet Mercury (*Budha*). Sixteen, referring to the number of columns within the cella, signifies divine destruction, the fall of man and the visible world. This integer also signifies completeness, or balance being made up of opposites--the Sun and Venus. It is a number whose √ is 4 . It is exemplified in: the sixteen human parts; the sixteen signs of beauty; the Sixteen *kalás* of *Chandra*; the *Shodasha-karshini*; the Sixteen *Arhats* (Tib.: *gNas-brTan bCu-drug*); the sixteen Insights (Pali: *solasa-nana*); and a *mandala* of sixteen *pada* called *Mahapitha Mandala*. As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Venus (*Shukra*). When reduced it produces seven and, therefore, the planet *Ketu* (the descending node of the moon). Additionally, it represents the *Vishudha Chakra*. Eighteen, referring to the surrounding, smaller chedis in each quarter, denotes completeness, it can also denote chaos, deadlock and a spiritual hinderance. It is exemplified in: the eighteen *parvas* of the *Mahabharata*; the eighteen chapters of the *Bhagavadgita*; the eighteen sense Elements (Pali: *dhatu*): and sunset (the eighteenth hour or 6:00 p.m.). As a compound number it is associated with the Sun (*Ravi* or *Surya*) and the planet Saturn (*Shani*). When reduced it produces nine and, therefore, the planet Mars (*Mangala, Kuja* or *Angaraka*). Twenty-four, referring to the columns in an intercardinal quarter, denotes totality and the combination of two opposites--i.e., 2, represented by the Moon, and 4, which denotes *Rahu*. This integer represents a cosmic number, and is considered a lucky number. It is exemplified in the total of the double hours of day and night. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet *Rahu* (the ascending node of the moon). When reduced it produces six and, therefore, the planet Venus (*Shukra*). Twenty-eight, referring to the combined columns on the north and south façade, is an auspicious number, this numeral represents a number that is associated with the moon's cycle--twenty-eight days. It is a perfect number arrived at by the addition of its divisors. It is exemplified in the Planes of Existence (Pali: *bhumi*); and the number of "mansions" in the moon. As a compound number it is associated with the Moon (*Soma* or *Chandra*) and the planet Saturn (*Shani*). When reduced it produces one and, therefore, the Sun (*Ravi* or *Surya*). Forty-eight, referring to the total columns of the *ubosot*, excluding the sixteen of the cella, denotes mystical completeness. Its association with the cosmic number twelve which comprehends all numbers lower than itself is auspicious. As a compound number it is associated astronomically with the planet *Rahu* (the ascending node of the moon) and the planet Saturn (*Shani*). When reduced it produces three and, therefore, the planet Jupiter (*Brihaspati* or *Guru*). It is visually represented in the rare forty-eight-petaled lotus (*astachaturdasa-dala padma*). One-hundred-and-twelve is a cosmic number of some importance--four times twenty-eight. It denotes: one equaling the source; twelve signifying the cosmic number. It is exemplified in: the number of the chapels in the *Gyantse Kumbum*; and the one-hundred and twelve major and minor signs that are the recognizable in an Enlightened One. As a compound number it is associated astronomically with the Sun (*Ravi* or *Surya*) and the Moon (*Soma* or *Chandra*). When reduced it produces four and, therefore, the planet *Rahu* (the ascending node of the moon).

Wat Phra Chetuphon Wimonmangkhalaram is one of the more developed *wats* of the Rattanakosin period and certainly throughout Thai history. It had been thoroughly subsidized by the early monarchs--Rama I through Rama V. It may have been in an attempt to solidify the dynasty and to establish the Rattanakosin as an able successor to the glories that had been Ayutthaya.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 81 -- *Wat Phra Chetuphon Wimonmangkhalaram, ubosot ensemble*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Lohaprasad, Wat Theptidaram

Bangkok, 1824-1850 CE

(SV, MB)

The *Lohaprasad* (aka Bronze Palace, Metal Palace or Brazen Palace) of the *Wat Ratchanatdaram* (aka *Wat Ratchanada*), a royal temple of the third class, represents a three dimensional *mandala* and is reputed to be the third of its kind. Originally constructed to hold venerable images of the Lord *Buddha*, the *Lohaprasad* is said to have been patterned after a Sri Lankan building of the same name. The first being constructed by the king of Anuradhapura in 215 BCE[53]--during the reign of Devanampiya Tissa (247-207 BCE). The second Sri Lankan *Lohaprasad* was constructed by King Vattagamani (Duttha-Gamani) (101-77 BCE).

The construction of the Bronze Palace began during the reign of King Nangklao (Rama III) (1824-1851) and was completed, repaired and restored during subsequent reigns. The base intent of this structure is a *chedi*, a memorial. Its inclusion as an ecclesiastical structure in not because it is a temple with a resident *Buddha* image, rather it's use was envisioned as a place of meditation, part of a *sanghawat*. Nowadays, it is merely an architectural curiosity and a mark of royal power and favor.

The *Lohaprasad* consists of five storeys, the first two are identical consisting of fifteen vaulted corridors running east and west and fifteen running north and south (See: **Appendix A, Plate 158**). The intersections create small cells where monks may meditate (See: **Figure 199**)--a total of two-hundred-twenty-five cells on each floor. The third and fourth storey are also identical being made up of seven east-west corridors and the like number of north-south--a total of forty-nine chambers on each floor (See: **Figure 200**). The top storey, the fifth consists of three corridors running east and west and three north and south--a total of nine cells. In all the five floors hold five-hundred-fifty-seven cells (crossings). Along the roof-line of the bottom two storeys are twenty-four crown-like spires--seven on each of the four façades. Likewise, on the roof-line of the fourth storey are ten similar spires--four on each face. Over the fifth storey is a *busabok* with its spire. The total is thirty-seven spires.

Numbers play an important role in the consideration of the *Lohaprasad*. There are six numerals which appear of interest: three, seven, nine, fifteen, forty-nine and two-hundred-twenty-five. Three, referring to the three divisions (halls) of the fifth storey, signifies perfection, the trinity, the divine family (father, mother, child), and unity plus diversity which equals perfection. Three is considered to be the first masculine (odd) number and therefore has certain precedents. It is a sacred number and is exemplified in: the planet Jupiter (*Brihaspati* or *Guru*), the Three

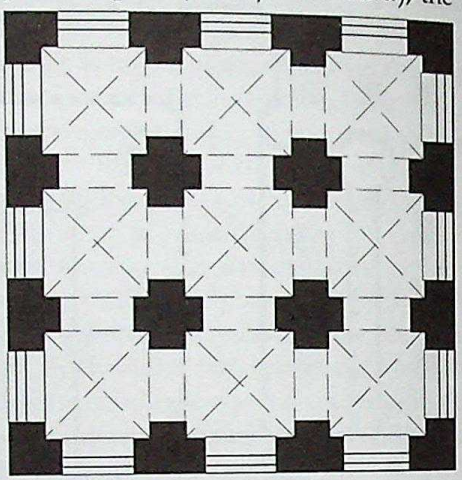


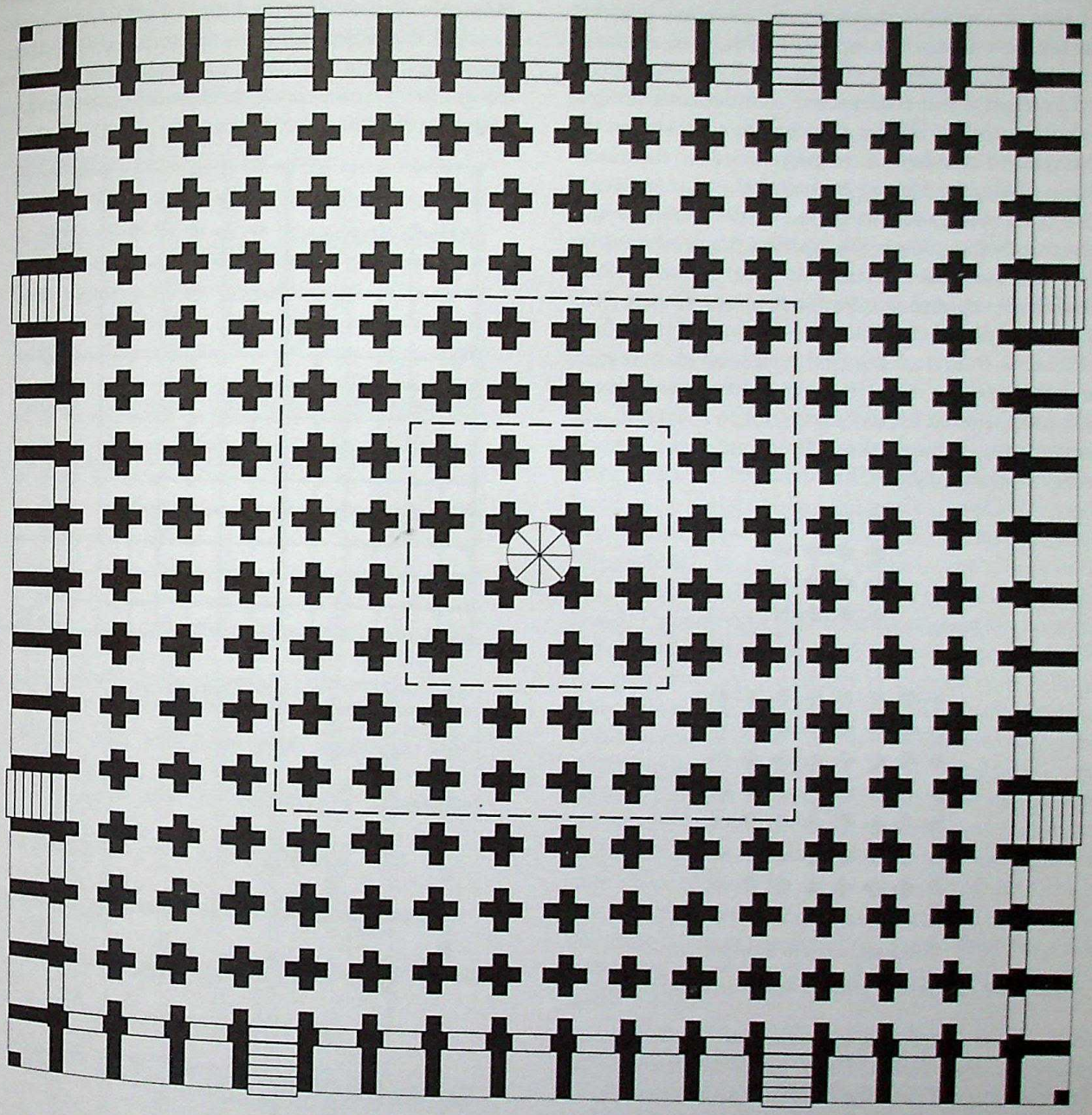
Figure 199: *Lohaprasad*, vault plan, fifth storey

Refuges of the *Theravada* tradition being the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); the trinity of *Brahmá, Vishnu, Shiva; trishula; Tripitaka* (Pali: *Tipitaka*); The Three Regions or the Three Worlds (Indic: *Triloka*) namely (Indic) *Arupadhatu, Rupadhatu, Kamadhatu*; the Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three *Bodhisattvas* of Wisdom, Power and Mercy; and the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*. Seven, referring to the seven divisions (halls) of the third and fourth storeys, denotes the sacred, the mystic being made up of the spiritual three (masculine) plus the practical four (feminine) and is often considered as the number of creation and perfection. It is exemplified in: the planet *Ketu* (the descending node of the moon), the seven Hindu planets; the seven days of the week; the phases of the moon; Seven Royal Jewels (Indic *Saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven Mothers (Indic: *Saptamatrikas*); Seven Different Jewels (Tib.: *Nor-bu Chab-bDun*); the Seven Buddhas of the Past (Tib.: *Sangs-rgyas Rab-bDun*); the Seven Factors of Enlightenment (Indic: *Satta-bojjhanga*); the seven sites of *Buddha's* meditation after Enlightenment; and within the *Vedas*: the seven wives (sisters) of *Agni*, his

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 82 -- *Lohaprasad, Wat Theptidaram*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

seven tongues, the seven horses which pull *Surya's* chariot, the seven streams of *soma*, etc. Nine, referring to the nine intersections of the fifth level, connotes completion, a number whose √ is 3 and therefore a magnification of that sacred number and the last whole number before the commencement of the compound numbers. It is exemplified in: the planet Mars (*Mangala, Kuja* or *Angaraka*); the nine orifices of the body; the gestation period of the human being; the number of *pada* in the smallest magic square; the *Navagrahas;* the Virtues of the *Buddha* (Pali: *Buddhaguna*); and the Supermundane States (Pali: *Lokuttara-dhamma*). Fifteen, referring to the fifteen divisions (halls) of the first and second storeys, is exemplified in the fifteen world planes--six in *Kamaloka,* five in *Rupaloka* and four in *Arupaloka,* and is the sum of the various directions in a nine *pada* magic square (See: "The *Mandala*" below). As a compound number it is associated with: the Sun, Mercury and Venus. Forty-nine, referring to the intersections of each the third and fourth storeys, is a sacred number whose √ is 7, the number of *pada* for a *Sthandila Mandala*. As a compound number it is related to the planets: *Rahu* (the ascending node of the moon), Mars (*Mangala, Kuja* or *Angaraka*), and the Moon. Two-hundred-twenty-five, referring to the two-hundred-twenty-five intersections of each the first and second storeys, is a number whose √ is 15. As a compound number it is associated with the Moon (*Soma* or *Chandra*) (2), Mercury (*Budha*) (5), and Mars (*Mangala, Kuja* or *Angaraka*) (9).

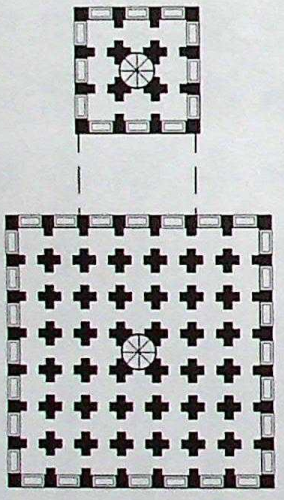


Figure 200: *Lohaprasad,* plan of third through fifth storey

If the major numbers are reduced--i.e., those referring to the corridors and cells-the resulting integer in both cases is eight. The north-south and/or east-west directional corridors:

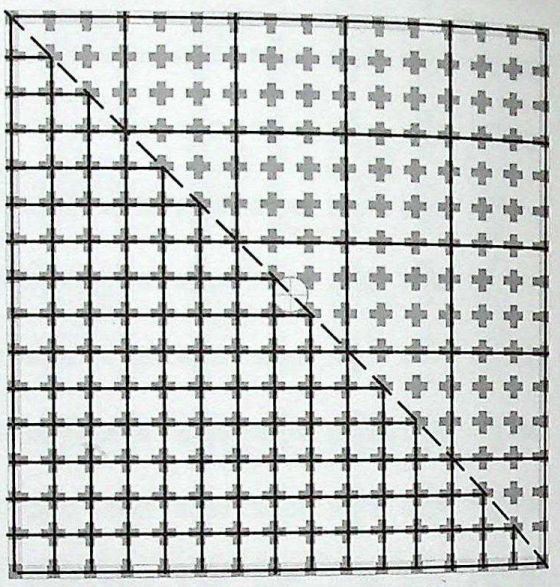


Figure 201: *Lohaprasad,* twenty-five & two-hundred-twenty-five *pada* division (storeys 1 & 2)

15	x	15	=	225
15	x	15	=	225
7	x	7	=	49
7	x	7	=	49
3	x	3	=	9
Total				557

557^{54}	=	5 + 5 + 7	=	17
17	=	1 + 7	=	8

The number of cells created by the intersection of the directional corridors:

225 =	2 + 2 + 5				=	9
225 =	2 + 2 + 5				=	9
49 =	4 + 9	= 13	= 1 + 3		=	4
49 =	4 + 9	= 13	= 1 + 3		=	4
9					=	9
Total						35

35	=	3 + 5	= 8

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The five storeys with three floor plans also produces eight. Eight is the numeral of perfection, good fortune, and is highly auspicious. It is exemplified in: *Manduka Mandala*; the Eight *Maha-Bodhisattvas*; the Eight Great Stupas (Indic: *Ashta-Mahachaitya*; Tib.: *mChod-rten-Che brGyad*); the Eight Auspicious Symbols (Indic: *Ashtamangala*; Tib.: *bKra-shis rTags-brGyad*); the Eight Symbols of Buddha's Life (Tib.: *bKra-shis rDzas-brGyad*); and the eight petal, sacred lotus.

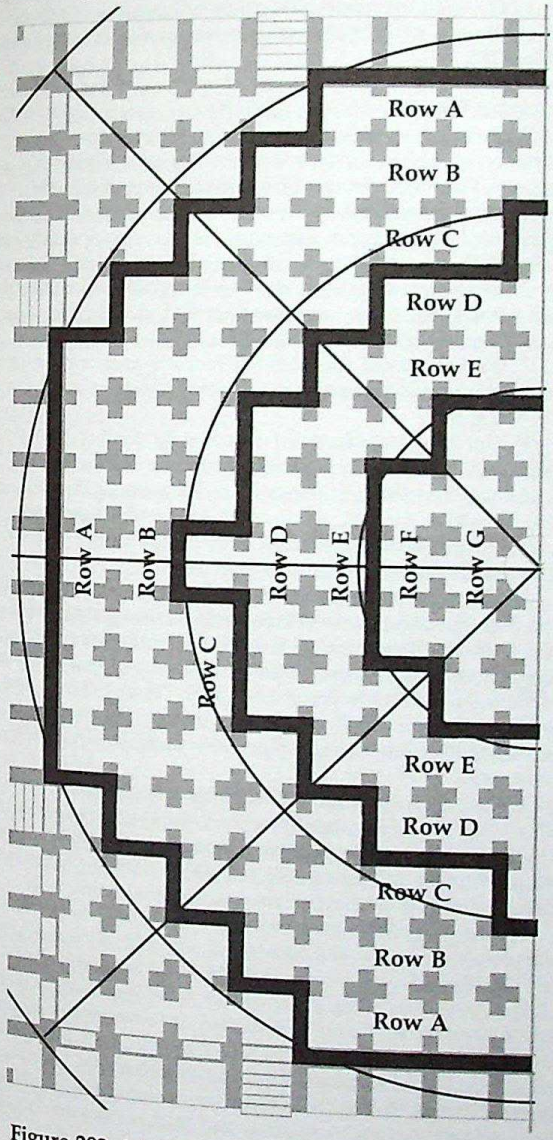


Figure 202: *Lohaprasad*, half plan indicating circular *Manduka Mandala*

If, indeed, the *Lohaprasad* is a *mandala* then it would seem that the integer eight must play a significant role. However, when considering the plan as applied to a square grid, which it obviously is, it would seem that eight cannot be applied to this structure as the key *mandala* grid number. Rather, the key is either the integer five (See: **Figure 201**) with twenty-five *pada* or fifteen with two-hundred-twenty-five *pada*. Twenty-five is a number whose √ is 5, the sum of mystic male numbers in succession. Therefore, if one applies a square *mandala* grid, the *Lohaprasad* assumes a masculine significance. Yet, as with a number of Thai *wats* as well as a number of Pagan temples, the square *mandala*, although in some instances seems to apply, it is with some stretch of the imagination that this is accomplished. If, on the other hand, the circular *Manduka Mandala* is applied, a more viable solution is seen. So with the *Lohaprasad* (See: **Figure 202**). The outer ring encircles the whole with the exception of the extended porches of the First Level. The second circle extends slightly beyond the outer limits but contains all the cells from **Row C**[55] inwards. Further, it extends to include nine cells of **Row B** and five cells of **Row A** each at the cardinal points of the compass. The third ring extends outward enclosing the forty-nine *padas* of the Third and Fourth Levels. It further extends to include five cells of **Row D** and one cell of **Row C** each at the cardinal points of the compass. The inner circle not only enfolds the nine *padas* of the Fifth Level, but extends to include three complete cells each of **Row G** at the cardinal points of the compass. The plan, thus formed, resembles a *pancharatha* (outer two) and a *triratha* (inner form).

The *Lohaprasad* is indeed an interesting structure, based loosely on an ancient form which does not possess a single derivative in the Common Era. It is a prime example of the devoutness of the *Theravada* tradition as well as the need for the Chakri dynasty to place their imprimatur upon their kingdom and reign.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Thailand)

[1] The sources for this introduction were generally taken: DW, RS and KW.

[2] For example: MB, p. 209, or PR, pp. 143, 150 and 154. Certainly JD II neglects Thailand in favor of Burma and Cambodia, but asserts this is in a large part due to the archeological infancy of this area. Nonetheless, the numerous monuments that are known and accessible as well as the wealth of images does little to influence those whose eyes are clouded by the civilizations of India or China or Japan, and to a lesser degree Java.

[3] CA, in general, particularly pp. 3-11; JB I regarding sculpture; CM regarding Sukhothai; and SV in general.

[4] CA, p. 5.

[5] Ibid., p. 85. Certainly, the various forms of Romanesque and Gothic architecture are noted within Europe and often treated separately as nationally distinctive.

[6] Because of the strong influence of *Therevada Buddhism* a true *devaraj* would have been somewhat of an anathema. Nonetheless, the position of the king was below that of a true *devaraj* and something a bit more than a *Chakravartin*. Until the Thon Buri and Rattanakosin Periods, when the king processed through the streets, the populous were forbidden to look on the person and retired to their respective homes or prostrated themselves with their faces in the dust. The person of the king was so elevated that even when assassinated, certain procedures were assiduously followed: he would be placed in a velvet bag and bludgeoned to death with a sandalwood club as it was considered a sacrilege for his blood to touch the earth. Even in the late Nineteenth Century a favorite wife of King Chulalongkorn (Rama VI) fell from a boat at Bang-Pa-In in full view of hundreds of able bodied Thai, yet no one would rescue her as to touch a royal body was simply not done, even in these extreme circumstances. She drowned.

[7] The northern kingdom of Haripunchai and the southern kingdom of Pattani are both believed to have had queens regnant. Even the present day Princess Maha-Chakri Sirindhorn is often referred to my many Thai as Crown Princess even though her elder brother is Crown Prince Vajiralongkorn. Recent promulgations have been made to allow for female succession.

[8] Aka *Chedi Wat Chama Thewi* (*Chama-Devi*).

[9] CA, pp. 36-38. Additional influences of the *Chedi Wat Chama Thewi* are seen in *Chedi Wat Phra Pai Luang*, Sukhothai, a stepped *chedi* in *Wat Mahathat*, Sukhothai, and a *chedi* at *Lak Muang*, Si Satchanalai.

[10] *Ibid.*, SV, 125.

[11] See: "Stupa Symbolism and Numerology," pp 50-53; see also: Figure 50.

[12] SV, pp. 110-111. JD II gives the date as second half of the Fifteenth Century.

[13] The elephants which surround the base are seen to be influenced by Sri Lanka (esp. *Ruvanveliseya*, Anuradhapura, JB I, p. 138) and set a precedent for the later examples, in addition, they are further noteworthy in that they are presented in the round. The *anda* is clearly Sri Lankan in form, while the presentation of the *Buddha* images enshrined in niches around the plinth of the *chedi* indicate strong Mon influence.

[14] It is to be noted that the *chattravali* in the *Chedi Wat Chang Lom* is narrower than that of *Chedi Wat Mahathat* and *Phra Pathom Chedi*, but significantly wider than the Ayutthayan subsidiary *chedi* of *Wat Chaumphon Nikayaram*. In addition the height of the *anda* in relationship to the whole is noticeably shorter in the *Chedi Wat Chang Lom* than in the *Chedi Wat Mahathat* and *Phra Pathom Chedi*. Finally, the *socle* of *Chedi Wat Chang Lom* has become more pronounced in relation to the whole than those of *Chedi Wat Mahathat* and *Phra Pathom Chedi*.

[15] CA, p. 160. The identity of the King Sai Nam Phung is not associated with Ayutthaya. The King of Sukhothai during this period (c. 1324) is King Loethai (Lo Thai) (1299-1346). Ayutthaya (Ayodhya) was within the Lavo (Lopburi) sphere of influence, however, there is no mention of a king by that name.

[16] For example: the *Prasat Hin Phimai* (early 11 C. CE) the *Sanphet Phrasat Ayutthaya* (1448), the *Amarinda Vinichi Prasat* (c. 1785), *Dusit Maha Prasat* (a. 1789), both of Bangkok. All follow a generalized Latin cross plan.

[17] The term "main ensemble" refers to those elements depicted in **Plate 71** and including the eastern *viharn* indicated in **Appendix A, Plate 145**.

[18] The term "chedi ensemble" refers to those elements depicted in **Plate 70**.

[19] There are certain precedents for this arrangement, an adaptation of the tower/shrines of the *Baphuon*, *Angkor Wat* and the *Bayon*. The shrine/towers (*shikhara*) of the upper terraces of the three, including that of the main sanctuary indicate this cardinal-intercardinal arrangement. Certainly, the circular sanctuary with its nine *shikharas* of the *Bayon* is a more obvious example.

[20] It has been stated that these towers possessed a lotus bud finial (crown) which are now missing; CM, p. 50, citing Lucien Fournereau, *Le Siam Ancien*, vol. I, Paris, 1895, p. 263.

[21] It is to be noted that from one receding area to the next the end columns are shared and are double counted.

[22] CA, p. 79.

[23] This concept is further buttressed by the location of four important Sukhothai cities at the approximate cardinal points of the compass from this city: Phitsanulok, Kamphaeng Phet, Tak and Si Satchanalai to the east, south, west and north, respectively.

[24] Mount Kailasha was believed by certain groups to be found on the summit of Mount Meru, SV, pp. 54-55.

[25] There are varying dates regarding the construction of this *wat*: DR, p. 24, states that it was built during the reigns of Boromaraja (1370-1388) and Ramesuan (1388-1395). That order was given even though Ramesuan reigned shortly (1369-1370) before he was supplanted by his uncle Boromaraja. Both PR, p. 152, and JB I, p. 259 give the date as 1374, early in the reign of Boromaraja. SV, p. 144, on the other hand assigns the date as 1384, late in the reign of Boromaraja.

[26] The name *Wat Phra Si Rattana Mahathat* is used by SL and MD, while JD II and CA merely use the name *Wat Mahathat*. Neither name is unique or solitary. There are numerous *Wat Mahathats* as well as *Wat Phra Si Rattana Mahathats*--e.g., referring to the latter Chaliang and Lopburi have a have a *wat* of that name.

[27] The *prang* finds its genesis in the Khmer tower forms of such temple mounts as the *Bakheng*, *Ta Keo*, and, of course *Angkor Wat*. The Thai adaptation was to simplify the form and extend its height as is shown in the *prang* of *Wat Arun Rajtharam*, Thonburi (See: **Appendix A, Plates 155 & 156**). Its elevation is strongly vertical, consisting of a basic square plan with redented corners and a number of diminishing storeys separated by narrow horizontal bands. Within Thai architecture it also symbolizes Mount Meru and becomes a form separate and distinct from the similarly attenuated Thai *chedi*.

[28] The *chedis* or *prangs* of: *Wat Mahathat*, Sukhothai is south and east of the axis; *Wat Chetuphon*, Sukhothai is on the east-west axes, but to the west of the north-south; *Wat Buddhai Sawan*, Ayutthaya is on the east-west axes, but to the west of the north-south; *Wat Phra Ram*, Ayutthaya is on the east-west axes, but to the east of the north-south; and *Wat Ratchaburana* is to the south and west of the north-south and east-west axis.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes (Thailand)
(Concluded)

[29] That is: *Agni* (southeast), *Nirriti* (southwest), *Vayu* (northwest) and *Ishana* (northeast).

[30] That is: *Indra* (east), *Yama* (south), *Varuna* (west) and *Kubera* (north). *Vajrayana Buddhism*, however, assigns different names, characters and realms to these four: all are fierce, armor-clad, warrior kings, *Dhritarastra* (east, Lord of the *Gandaharvas*), *Virudhaka* (south, Lord of the *Kumbhandas*), *Virupaksha* (west, Lord of the *Nagas* and also the guardian of *Buddha* relics), and *Jambhala* (aka *Vaishravana* or *Kubera*) (north, Lord of the *Yakshasas*).

[31] The importance of designation is much in the same way that *Wat Phra Kaew* assumes the importance of its designation for the Rattanakosin.

[32] CA, p. 99, and SV, p. 146, assign the date of 1369, JD II, pp. 69-69 asserts that it was constructed during the reign of Ramesuan (1369-1370, 1388-1395), and PR, p. 152, merely says that it was built in the mid 13th Century.

[33] The placing of three shrines, generally oriented to the east recalls the *Preah Ko*, and certainly finds precedence in the *Phra Prang Sam Yot* of Lop Buri. Additionally, the raising of the *wat* and its substantial *prang* over the cremation site of Ramatibodi I, hearkens to the need to establish a cult of ancestors so important to the Khmers. The elevation of the *prang* and two subsidiary shrines within an enclosure (cloister-like) finds parallels in *Angkor Wat* and the *Bayon*.

[34] For example: the *Nan-Hpaya, Naga-Yon* as well as the three chapel-forms of *Paya-Thon-Zu*.

[35] JD II, p. 69; CA, p. 99; PR, p. 152 and JB I, p 261, are all in agreement as to the date of 1424 Further, CA states that this *wat's* construction was aided, in part, by the local Chinese community, pp. 160-161.

[36] This would appear to indicate a need for the early kings of Ayutthaya to establish their right of rule by association with or by partly assuming preexistent forms of the *devaraj* of the Khmer Empire. In addition, in the elongation of the Ayutthayan *prang*, one cannot fail to see an emulation of the *Shiva linga*, and, therefore a virile male symbol thrusting skyward announcing to all the royal presence and privilege.

[37] SI, p. 33, DR, p. 24, and SV, p. 93. CA, p. 50, states that *Wat Phra Si Rattana Mahathat*, Lop Buri, was constructed during the Ramatibodi period .

[38] For example: *Bakong* at Roluos, *Bakheng, Ta Keo* and *Angkor Wat* at Angkor. However, at Wat Ratchaburana, not only is the ensemble shifted to the east, but, also, it is shifted to the north.

[39] MD, p. 18; JA, p. 171; SV, pp. 129-130.

[40] This *wat* has even been compared to the *Mahabodhi* Temple of Pagan (a 1211 and b. 1234 CE), however, even in that comparison, the only similarity is the square central tower.

[41] An aside: Ramathibodi II commissioned in the year 1500 a large bronze image of the Lord *Buddha* standing and covered with gold. This sixteen meter bronze casting indicates the technical level to which this kingdom had risen--a level which had not to that date been equalled in Europe.

[42] CA, p. 98, and SV, p. 146.

[43] If the plan were strictly axial regarding these perimeter *chedis* and *viharns*, then there would be thirteen *viharns* and thirteen *chedis* (including the middling corner two) in the northern half and thirteen in the southern half, for a total of twenty-six each or fifty-two combined.

[44] CA, P. 280.

[45] *Ibid.*, p. 93.

[46] For the sake of identification this area will be referred to as the *ubosot* area.

[47] For the sake of identification this area will be referred to as the *viharn* area.

[48] For example *Wat Suthat* (See: **Appendix A, Plate 153**), *Wat Theptidaram, Wat Ratchabopitr, Wat Ratchapradit* and *Wat Saket. Wat Mahathat's viharn* and *ubosot* are virtually identical

[49] CA, p. 127.

[50] The capital letters and numerals in bold type all refer to **Figure 198**. In addition, the Buddha images protected in the *phra rabiang* are among the 872 images Rama I had ordered to be brought to Bangkok, mainly from Ayutthaya and had installed in the *Wat Pho*, Matics, p. 16-17.

[51] The odd number is unusual, but not a solitary phenomenon. The *Isarawinichai Throne Hall* of Bangkok's *Wang Na* employs five columns, the *ubosot* of *Wat Rakhangkhositaram* has seven, as does the *Phra Wiharn* and the *ubosot* of *Wat Kanlayanamit*, to name a few.

[52] For example: *Wats Chai Watthanaram, Buddhai Sawan, Phra Si Sanphet, Mahathat, Ratchaburana*, and *Phra Ram* of Ayutthaya; and *Wats Phra Kaew, Phra Pathom Chedi, Suthat, Saket*, and *Ratchabophit* of the Rattanakosin period.

[53] CA, p. 132; SV gives a date of 161 BCE, p. 166; and CRB states 141 BCE which would place it during the reign of Elara (145-101), however it is stated that this Lohaprasad was built by Nang Wisakha Upasika, p. 243.

[54] Cf. n. 24.

[55] The bold face designations refer to those found in **Figure 202.**

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Viet Nam
(Champa)

Pho-hai Shrine, Phan-thiet
Khüöng-my Shrine, n. Hoi-an
Dong-Düöng Monastery, Dong-Düöng

The influence of China upon present day Viet Nam has been historically profound. Yet there are examples of Indianized architecture, particularly from the Champa period, one of the earlier periods that flourished in what is now known as Viet Nam. This small but vital kingdom resisted the influence of the Chinese in favor of the Indianized states to the west and the south and was buffered from the pervasive Chinese influence by Chen La and the later Annam kingdom. Even though they were forced to pay nominal tribute to the giant to the north for long periods, they were able to caste off this yoke briefly in the Sixth Century CE. Later they fell prey to the Java states, then Annam, their aggressive neighbor to the north, and finally to the powerful and rapacious Khmer empire. The year 1471 found the death knell tolling for Champa as a kingdom/nation.

The individuality of Champa art is, however, to be found in the elongation of the temple height over a period of time as well as the architectural sculpture that infuses the whole of the structures. The elegant extension of the vertical elements harkens to the Gothic predilection for elongation in Europe. Great monuments were not the norm. Rather, numerous smaller, but elegant and sophisticated shrines were erected by the ruling monarchs. *En plan*, they are but a continuation of the Indian archetype with minor and interesting modifications. With the exception of the complex at *Dóng-Düöng*, the Champa builders concentrated on these single cell shrines often with extended portico/vestibules set upon rectangular platforms or terraces.

Champa, as its later neighbor, the Khmers, espoused the doctrine of the *devaraj* steeped within the Buddhist tradition. However, due to the constant warlike interruptions from their neighbors, particularly to the north, and their own internal intransigence and fragmentation. They may be likened to any number of smaller, national units in Europe which were bound to or influenced by larger imperial states, but which developed a brilliant, but artistic repetoire and output.[1]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Pho-hai Shrine

Phan-thiet, c. 8 C. CE;
(JA)

The *Pho-hai Shrine* at Phan-thiet is one of those numerous smaller shrines built by Champa which stands out as a prime example of the influence of the Indian tradition to this area of Southeast Asia. The tower sanctuary (Champa: *kalan*) is influenced by both the Khmers and the Javanese temple structure and plan (See: **Appendix A, Plate 104**). Noted to be similar *en plan* to the *Bakong*, *Baksei Chamkrong*, and *Mangalartha*, it possesses its own charm and elegance.[2]

Based loosely upon a *pancharatha* plan, the *anardha-ratha* is within expected proportions, but the *raha-ratha* is somewhat wider and shallower in proportion to the *anardha-ratha*. It is to be noted that there are numerous engaged piers and extensions other that the simple *rathas*. Additional architectural detail, notably the placement of the engaged column-forms, gives the plan an almost circular appearance not unlike the plans of the sanctuaries of the *Brahmeshvara Temple* (See: **Plates 12 & 25**) or the *Varahi Temple* at Caurasi.

The external carved architectural design/sculpture is substantial, but not to the extent as is to be found in later *kalans*--e.g., the *Temple A-1* of Mi Son (See: **Appendix A, Plates 159 & 160**). The earlier temples, of which this is an example, tended to represent the influence of India and Java to a greater degree than the later shrines which indicate an obvious and important debt to the Khmers. The basic square of the sanctuary plus the *rathas* and the vestibule extension offers cogent reference to the Indian prototype. The *garbha-griha* is square, *en plan*, and from it, towards the east, extends a narrow passageway to the eastern portico. Three interior niches, which are now bare, doubtlessly held an image of the Lord *Buddha* in the center. The two flanking niches may have been reserved for images of *Bodhisattvas* appropriate to the *Mahayana* faith. Normally, one of them would have been *Avalokiteshvara*, *Bodhisattva* of Compassion.

The numeral three, referring to the three niches, as has been shown, is a number which denotes perfection, the trinity, the divine family, and unity plus diversity which equals perfection. It is a sacred number and is exemplified in: the planet Jupiter (*Brihaspati* or *Guru*), the Three Refuges of the *Theravada* tradition being the Lord *Buddha*, the Law (Indic: *dharma*; Pali: *dhamma*) and the Community of monks (Indic: *sangha*); the trinity of *Brahmá, Vishnu, Shiva; trishula*; *Tripitaka* (Pali: *Tipitaka*); The Three Regions or the Three Worlds (Indic: *Triloka)* namely (Indic) *Arupadhatu, Rupadhatu, Kamadhatu*; the Three Principles of Life (Indic: *Lakkhana*); the Three Patrons (Tib.: *Rigs-gSum mGon-po*); the Three *Bodhisattvas* of

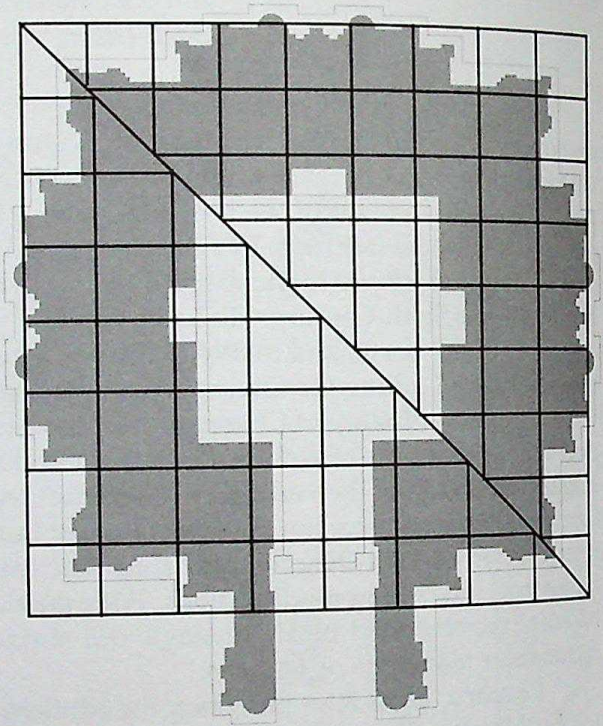


Figure 203: ***Pho-hai** Shrine*, indicating *Manduka Mandala* and *Paramashayika Mandala*

Wisdom, Power and Mercy; and the three steps taken by the Lord *Vishnu* in his *Vamana-Trivikrama avatar*.

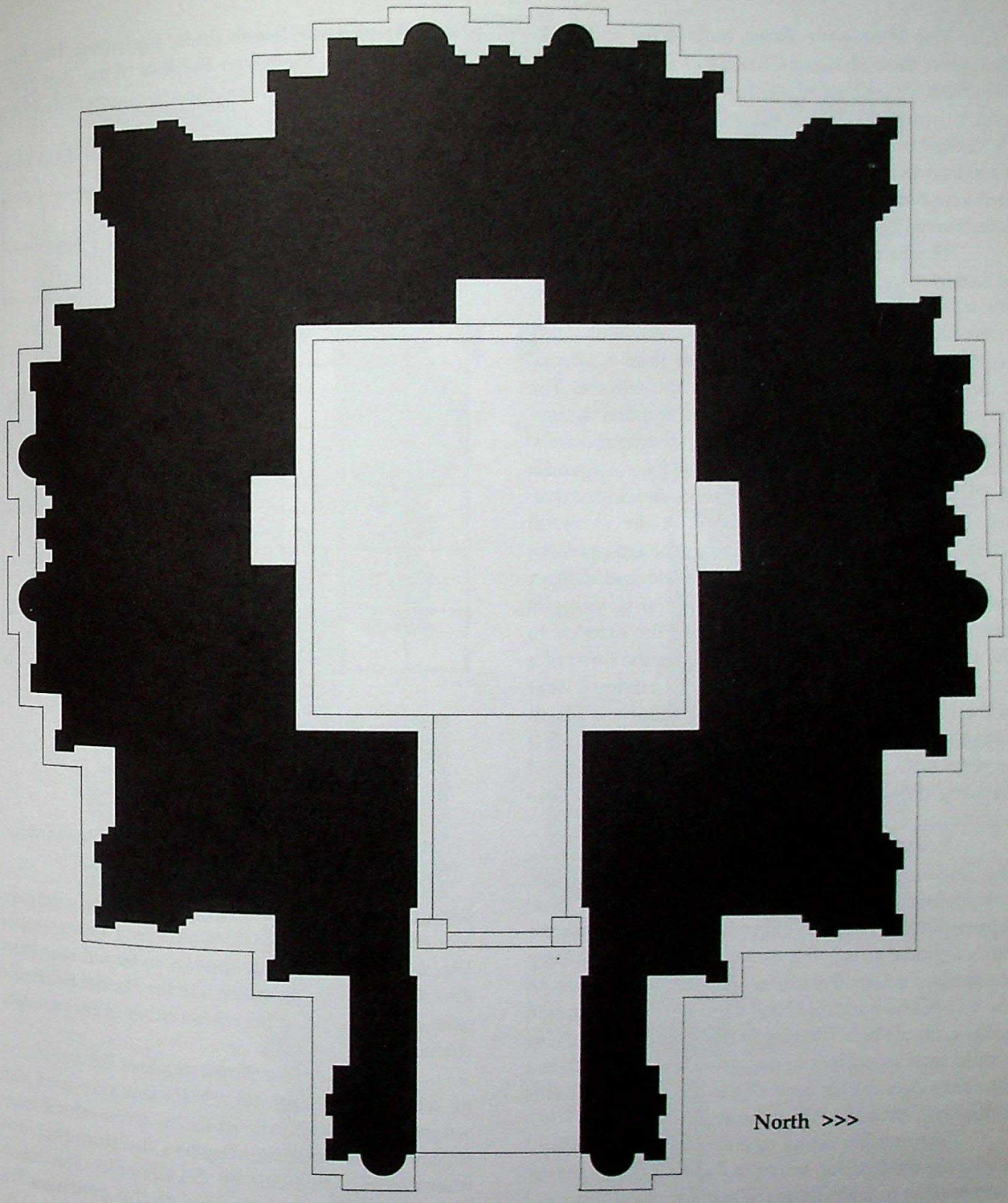
Finally, either a square *Manduka Mandala* of sixty-four *pada* or a *Paramashayika Mandala* of eighty-one pada are both applicable to the plan of this temple/shrine (See: **Figure 203**). As is to be noted, both *mandalas' Brahmásthanas* do not cover the *garbha-griha*, but are included within that space.

The basic design elements of the Indian prototype are seen to be included within this temple plan. However, strict adherence to the precepts of the prototype is not evident. The plan indicates numerous variations which are further evident in the temples elevation and the Champa predilection towards verticality (See: **Appendix A, Plate 160**). Nonetheless, the debt is noted in the plan.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 83 -- *Pho-hai* Shrine



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Khüöng-my Shrine

n. Hoi-an, e. 10 C CE

(JA)

The *Khüöng-my Shrine*, built at the end of the first great flourishing of Champa at a time when this kingdom was still relatively free of outside incursions and imperialism, it indicates an individuality of plan. A variant of the *kalan*, this shrine exhibits interesting variation from the ancient prototype established in India centuries before. *Khüöng-my* was conceived and constructed in what is known as the Mi-son style.[3]

The sanctuary is square, indeed the emphasis is unremittingly upon the square. The utilization of the *triratha* appears to be merely an afterthought. The *ratha*-like extensions give the appearance of being "applied," a curious growth rather than a normal extension or development from the square. The stepped indentions are examples of "applied design" as opposed to viable architectural or structural details[4] which serve to emphasize the vertical (See: **Appendix A, Plate 159**). The vestibule is far more developed than that of the *Pho-hai Shrine* both in the external dimensions and form, as well as in the enlargement of the interior space to form a separate and distinct form. This space acts as an assembly area, vestigial indeed, that offers a transition from the exterior to the sacred interior. The *garbha-griha*, in the form of a Tau cross, eschews the square and the centered altar of the Indian prototype, opting, instead, for a planal approach. The main altar-niche is set within the western wall, flanked by four niches. Opposite and flanking the entrance into the *garbha-griha* are two additional niches, facing the main altar.

As with a number of shrines and temples within the region, the masonry walls are quite thick, supporting the multi-storey superstructure (See: **Appendix A, Plates 158-160**). In addition, as with the other regional structures, these thick walls act to keep the interior cooler. Finally, as with the *Pho-hai Shrine*, the lack of any windows limit the interior illumination to the ambient light filtering in from the entrance. This would tend to underline the cave concept which is a common element for most of the temples within this study and, indeed, within the region.

The number seven, referring to the seven altar/niches of the interior, refers to the sacred, the mystic and is often considered as the number of creation and perfection. It is exemplified in: the planet *Ketu* (the descending node of the moon), the seven Hindu planets; the seven days of the week; the phases of the moon; Seven Royal Jewels (Indic *Saptaratna*; Tib.: *Rin-chen sNa-bDun*); the Seven *Buddhas* of the Past (Tib.: *Sangs-rgyas Rab-bDun*); and the seven sites of *Buddha's* meditation after Enlightenment.

The application of a square grid is done with some difficulty, due to the irregular shaped sanctuary. Nonetheless, a *Manduka Mandala* or a *Paramashayika Mandala*, when applied, appears to be a design basis (See: **Figure 204**). However, like the *Pho-hai Shrine*, the *garbha-griha* does not fall within either of the *mandalas' Brahmásthana*.

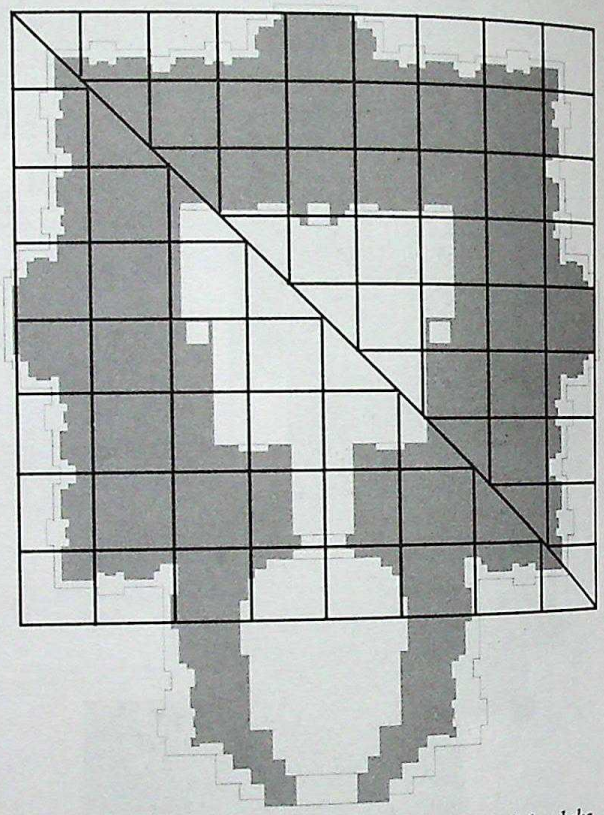


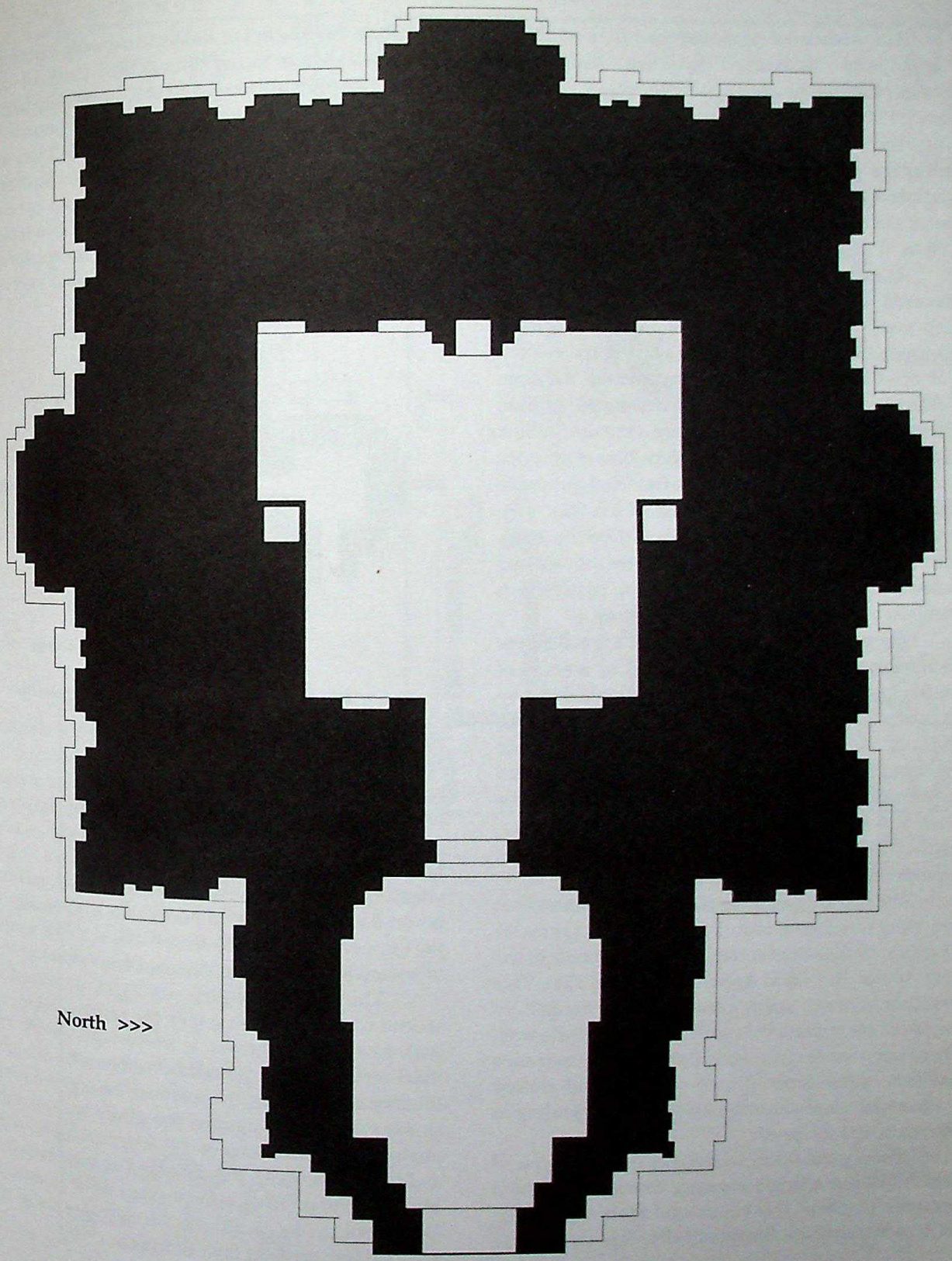
Figure 204: *Khüöng-my Shrine*, indicating *Manduka Mandala* and *Paramashayika Mandala*

The *Khüöng-my Shrine* displays the variations, or deviations, that to which the standard can subjected, particularly in those areas which were Indianized. It, further, displays the form that was found to be acceptable by the Champa. The planal mutations are not reflective of the penchant for verticality that so concerned these people. However, both variations indicate not only a standard, but the ability to venture from this standard.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 84 -- *Khüöng-my* South Shrine



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dong-Düöng Monastery

Dóng-Düöng, a. 875

(BG, JA)

The *Mahayana* monastic complex at *Dóng-Düöng* was dedicated to the *Bodhisattva Lakshnindralokeshvara* (*Avalokiteshvara*).[5] It was founded at the same time as the reign of the Khmer king, Indravarman II. Constructed during the Indrapura period, it indicates, stylistically, a close relationship with the Javanese styles. However, *en plan*, it bears a closer relationship to the art of India as well as to its neighbors, the Khmer.[6]

The complex is axial and consists of three precincts. Each is surrounded by a girdle wall and each possesses a main structure as well as a three towered entrance pavilion--one each at the eastern wall of each complex. The eastern pavilion, the main entrance is the largest and most developed, *en plan*. The central and western entrance structures allow triple access--as does the eastern--however, once inside these two pavilions, one is funneled through a single egress to the courtyard to which they give access (See: **Figure 205**). What would be the inner north and south portals of these pavilions are recessed niches in the forms of blind portals--a predilection often seem in Champa shrine architecture.

The eastern complex consists of a small shrine upon a large podium and surrounded by a series of smaller memorial *stupas*. The whole is flanked by two ranks of *stupas*, one on the north and one rank on the south. At the western end of this compound are two larger *stupas* which mirror the two outside the eastern wall which flank the main entrance pavilion. In the north and south girdle walls and on the east-west median of the podium are two small entrance with appropriately sized pavilions.

The second (middle) compound is somewhat less congested consisting of a long rectangular structure, similar *en plan* the libraries or *prasats* of the later *Angkor Wat* (See: **Appendix I, Plate 124**). This structure is raised upon a plinth and is flanked by memorial *stupa* along the north and south girdle wall. There are two large *stupas* flanking the entrance pavilion of the inner (third) complex and walled avenue with *stupa* along the eastern face extending to the north and the south.

Finally, the third, western or inner compound which has but a single entrance through its eastern entrance pavilion. This compound finds a profusion of temple/shrines. Simplistically, this compound resembles the concept of the Indian temple plan with four small shrines in the corners (See: **Plate 25**)--the eastern two oriented westward and the western facing eastward. The main shrines sits upon the east-west axis in the western half of the compound. There are three additional small shrines resting on the north-south axis, and on the west wall of the east-west axis all three are facing inward. A short distance inside the main entrance is a middling large square shrine which is flanked on the north by a smaller podium

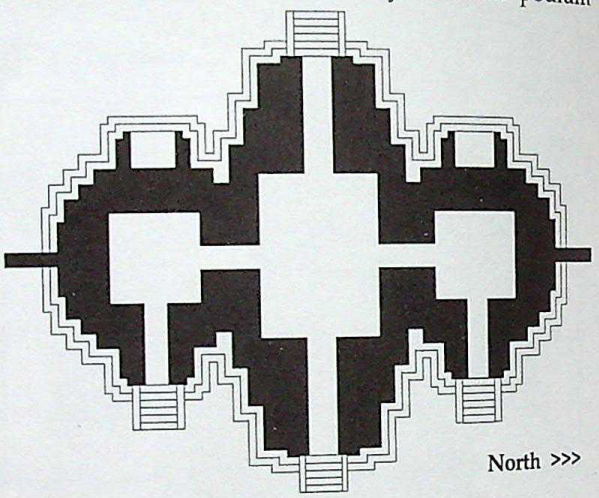


Figure 205: *Dóng-Düöng*, western entrance pavilion

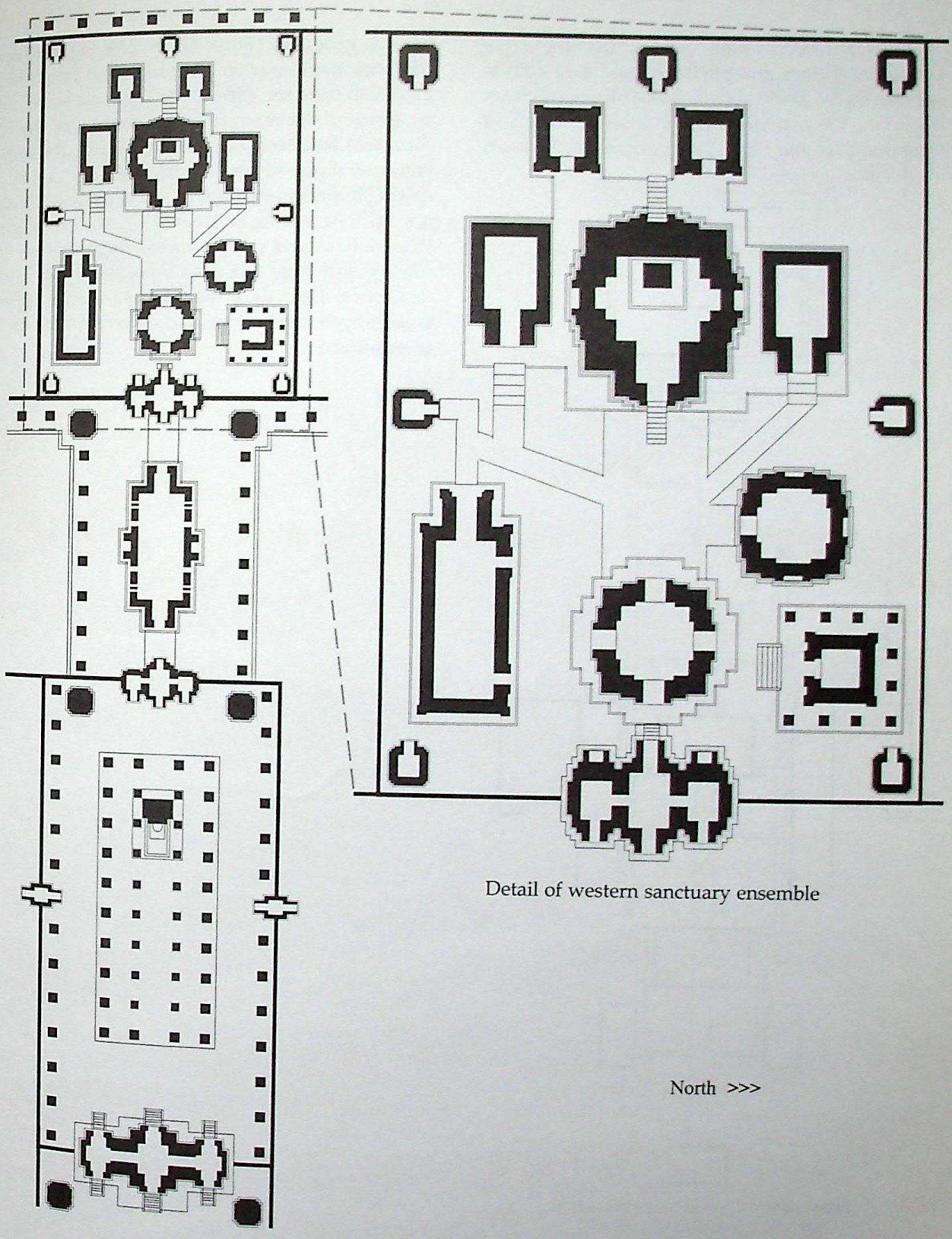
shrine and on the south by a long rectangular structure oriented westward. Flanking the main shrine on the north and on the south are two rectangular shrines, neither of which are on either the same east-west peripheral axis or on the same north-south axis. Behind the main shrine are two small square shrines which appear to be on the same north-south axis, but no on the same east-west peripheral axis. Finally, to the front and north of the central axis is a final temple of somewhat larger size, oriented southward.

The first two courts are axial, *en plan*. The second court, considering only the rectangular shrine with its flanking shrines, is mirror cross-axial. The third or inner court possesses elements of axiality--the first inner shrine, the main shrine and the seven smaller shrines set against the girdle wall--but the obvious later additions of the four shrines flanking and behind the main shrine as well as the three other individual-plan shrines destroy any sense of axiality. Doubtless theses 'additions' were to assuage the spiritual/*raj* needs of later monarchs.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 85 -- *Dóng-düöng Monastery*



Detail of western sanctuary ensemble

North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dong-Düöng Monastery (Concluded)

As has been stated, the architecture of the individual shrines and pavilions indicate a debt to both the Indian prototypes as well as Khmer sources. However, the extension of the three precincts or compounds of the *Dóng-Düöng Monastery* finds its possible genesis in China. The *Bai Ma Si* (See: **Figure 206**) with its elongation establishes this longitudinal precedent from the entrance to the most sacred. It is an apparent deviation from the concept of the high place that had been elaborated upon by the Indian, Javanese, Paganese and Khmer builders. Again, the cost of physically establishing a mount where one does not exist, or adding to an existing outcropping is a long, tedious and costly process requiring not only money and time but also a certain unswerving dedication. Doubtless, the Champa monarchy with their indigenous problems and concerns opted for this form instead.

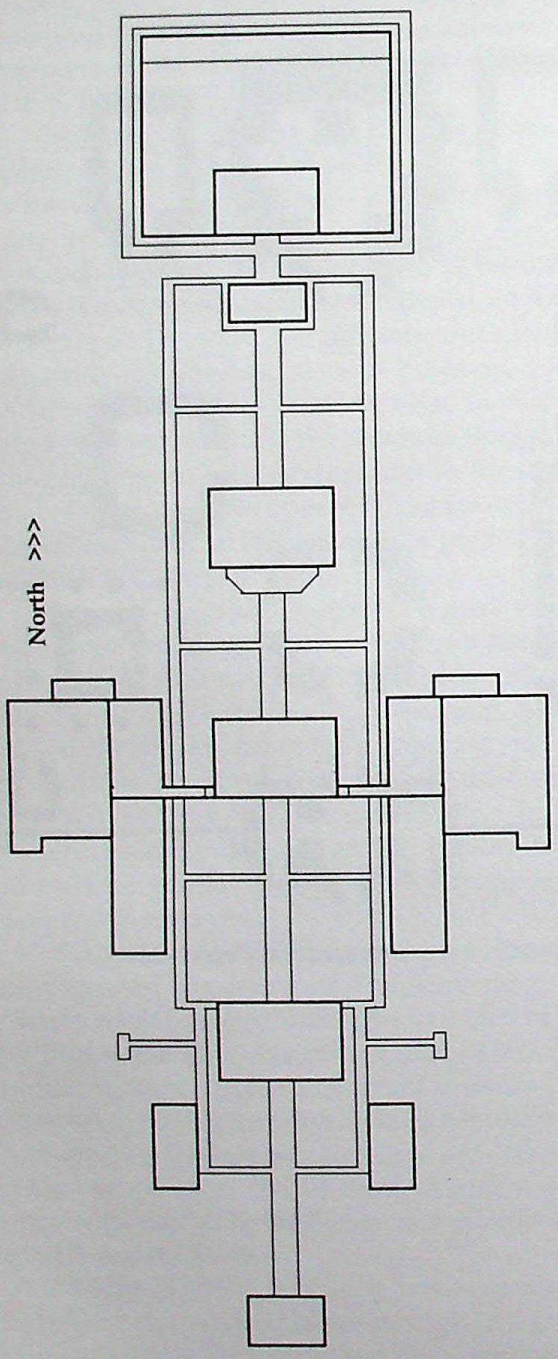


Figure 206: *Bai Ma Si*, Luoyong, China
(68 CE, reconstructed 1559 CE)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Viet Nam)

[1] Notably: Burgundy or Castille of the Fourteenth and Fifteenth Centuries, CE; Denmark or Naples of the Seventeenth and Eighteenth Centuries, CE; and Norway or Bavaria of the Nineteenth and Twentieth Centuries, CE.

[2] JB, pp. 62-66.

[3] BG, p. 143. This style is named after Mi Son, of the north, which along with Dong Duong was the center of Cham culture and administration. It is characterized by a profuse use of ornamentation, mouldings and small shrine-like structures on its receding crowning storeys.

[4] See: "Conclusions."

[5] BG, p. 138. Groslier asserts that the dedication of the temple to the *Bodhisattva Avalokiteshvara* infers that Indravarman II is establishing the *devaraj* concept which is more akin to the Shaivas than the *Mahayana* Buddhists.

[6] The elongation of the Dóng-Düöng monastery complex--one compound attached axially to another--tends not to be a usual feature in either Indian or Javanese architecture. There are examples of rather extended rectilinear plans in India--i.e., *Brihadeshvara Temple*, Tanjore--but not of the type of 'growth' shown in this complex. Frequently if there were additions needed or desired they would be included within an enlarged girdle wall as in the *Temple of Shiva and Minakshi*, Madura. Later complexes such as the Khmer's *Preah Vihear* (c. 9-12 C. CE) and *Prasat Phanom Rung* (c. 10-13 C. CE), or even Ayutthaya's *Wat Phra Si Sanphet* (1491 CE) exhibit this penchant for axial extension, but they are still not the norm.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Postscriptum: Malaysia

Masjid Terengkera, Malacca
Masjid Kampung Laut, Kelantan
Masjid Kampung Kling, Malacca
Masjid Kampung Hulu, Malacca

The author was at first tempted not to include a number of early *masjids* (mosques) from Malaysia even though they bear obvious influence from the square and the Indian (Hindu) prototype. The philosophical/theological problems[1] seemed to mitigated their inclusion. Certainly, *en plan*, the square is a integral part of the a majority of Islamic architectural structures.[2] Frequently, the square's importance is applicable in relation to the dome which tends to be the salient element.

Setting aside the cultural influence of Islam upon Malaysia, which is vastly important and all pervasive, the cultural lineage and genesis of the Melayu is to be found in the eastern part of Indochina--i.e., Champa. Prior to the establishment of the Malacca Sultanate, which is considered to be the earliest in Malaysia, the peninsula was inhabited by a number of indigenous groups. Between 1145 CE, the first major incursion of the Khmers into Champa, and 1471, the total collapse of the Champa kingdom, it is generally conceded that a great number of the Chams, who were accomplished seafarers, had migrated south and southwestward.[3] Taking up residence along the east coast of the Malay peninsula and further south, the island of Java, these robust and active people brought with them their cultural and architectural heritage and practices. Not known as great warriors or conquerors, they populated the area and lived in relative peace.[4] From the Sultanate of Malacca, grew a number of other sultanates on the peninsula, nine in total--Perlis, Kedah, Kelantan and Terengganu in the north, Perak, Pahang and Selangor in the center, and Negri Sembilan and Johor in the south. All, to a greater or lesser extent owe much to their genealogical genesis.

The present day peninsular Malaysia came under the influence of Portugal and the Netherlands which centered in and around Malacca. The sultanates had established long trading and commerce links with India and China. A number of Indians and Chinese had taken up residence along the coats and flourished. In the Eighteenth Century the English imperialized the country. They imported large numbers of Hakka and Hokien Chinese to work in the tin mines, and Tamils to labor in the rubber and palm oil plantations--labors which the agriculturally oriented Melayu eschewed, in part due to a type of passive resistance against the imperialistic British.

The last great "invasion" had taken place towards the latter half of the Nineteenth Century and during the Twentieth Century--i.e., the influence of Mughul and Near Eastern Islamic architecture. The British had "imported" the Mughul style to Malaysia, constructing government buildings, courts and train depots in this "style," particularly in Kuala Lumpur. Even royal architecture succumbed, not to Mughul, but to European "classical" forms. The beautiful and elegant *istanas* of pre-imperial times became museum pieces and museums, their forms not to be repeated or utilized. Traditional Malay (Melayu) architectural forms were cast aside--except for individual domestic architecture (*kampung* houses) (See: **Appendix A, Plates 164& 165**).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Masjid Tranquerah

Malacca, c. 1728

A number of early Malaysian mosques (Malay: *masjid*) tend to be found in Malacca on the west coast of peninsular Malaysia. Having first come under the influence of Srivijaya and later, on the west coast, the traders from India, this peninsula's strategic location--being on the Straits of Malacca, the passageway between the Indian Ocean and the Western Pacific--has made it a melting pot of southeast Asian cultures. Little remains of the earliest "colonizers." Recently, there have excavations in numerous locations in the state of Kedah, particularly the hilly regions adjacent to the coastline. Various small temple structures have been excavated which are probably Hindu in origin. The material, mostly of brick with some stone, mirrors the material available in the locale.

The west coast of Malaysia because of its location has benefited and suffered numerous influences. The strategically important old city of Malacca, on the south western coast, is the site of the earliest Muslim Sultanate which dates from the Fourteenth Century CE. There were close ties with the Sultan of Malacca and the royal court of China during this period which gave rise to the courtly Nonya and Baba influences. Later Malacca had been colonized at first in the Fifteenth Century by the Portuguese and in the Sixteenth Century by the Dutch. Prior to that time most of the building had been of perishable wood construction and nothing remains of the early period. The Portuguese and Dutch constructed many of their structures of brick and stone. This was a doubtless influence on the construction of *masjid* in and around Malacca which are, generally, of brick and stucco construction--*Masjid Terengkera* is an example of this more permanent form of building and reputed to be the oldest mosque in Malacca.

Occupying an area to the north of the old city, essentially square *en plan*, the *masjid* is oriented towards Mecca, as are all mosques. This orientation for the *Masjid Tranquerah* (*Terengkera*) is generally east to west. However, no influence of this orientation is to be ascribed to any other reason than in Malaysia, Mecca is generally to the west. The north, south and east façades are essentially identical, consisting of a deep verandah, a wide overhanging roof supported by six pillars and entry stairs centered on each face (See: **Appendix A, Plate 161**). Set in on the north, south and east sides is an enclosed area which runs to the western edge, creating a rectangle. Centered on the west wall and extending beyond the "square" is a small extension, the *mikhrab*. The rectangular cella possesses three, wide, arched doorways each in the north, south and east walls, and centered on the square. The extension to the west, creating the

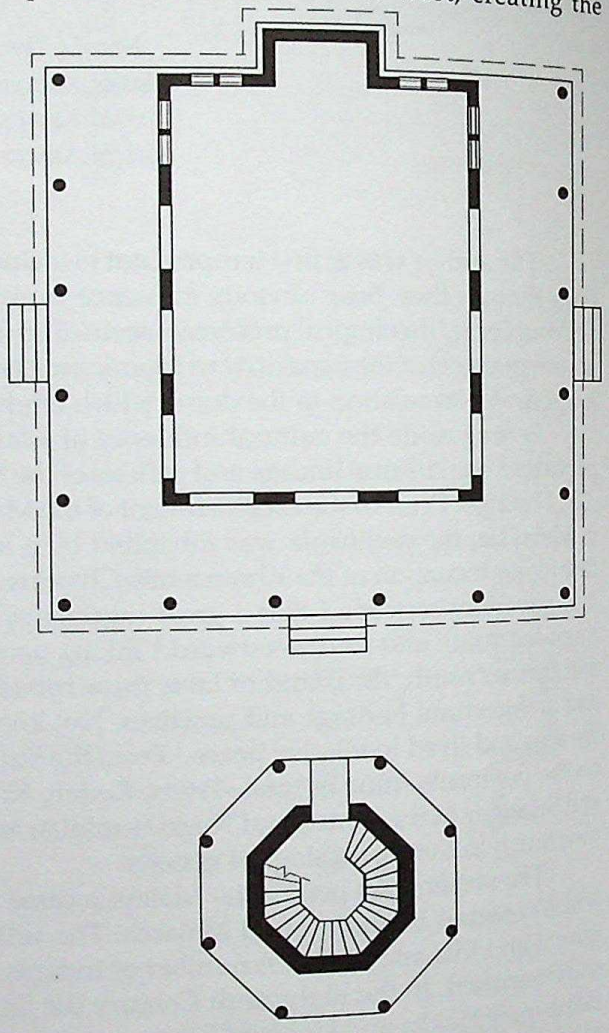


Figure 207: *Masjid Tranquerah*, ensemble

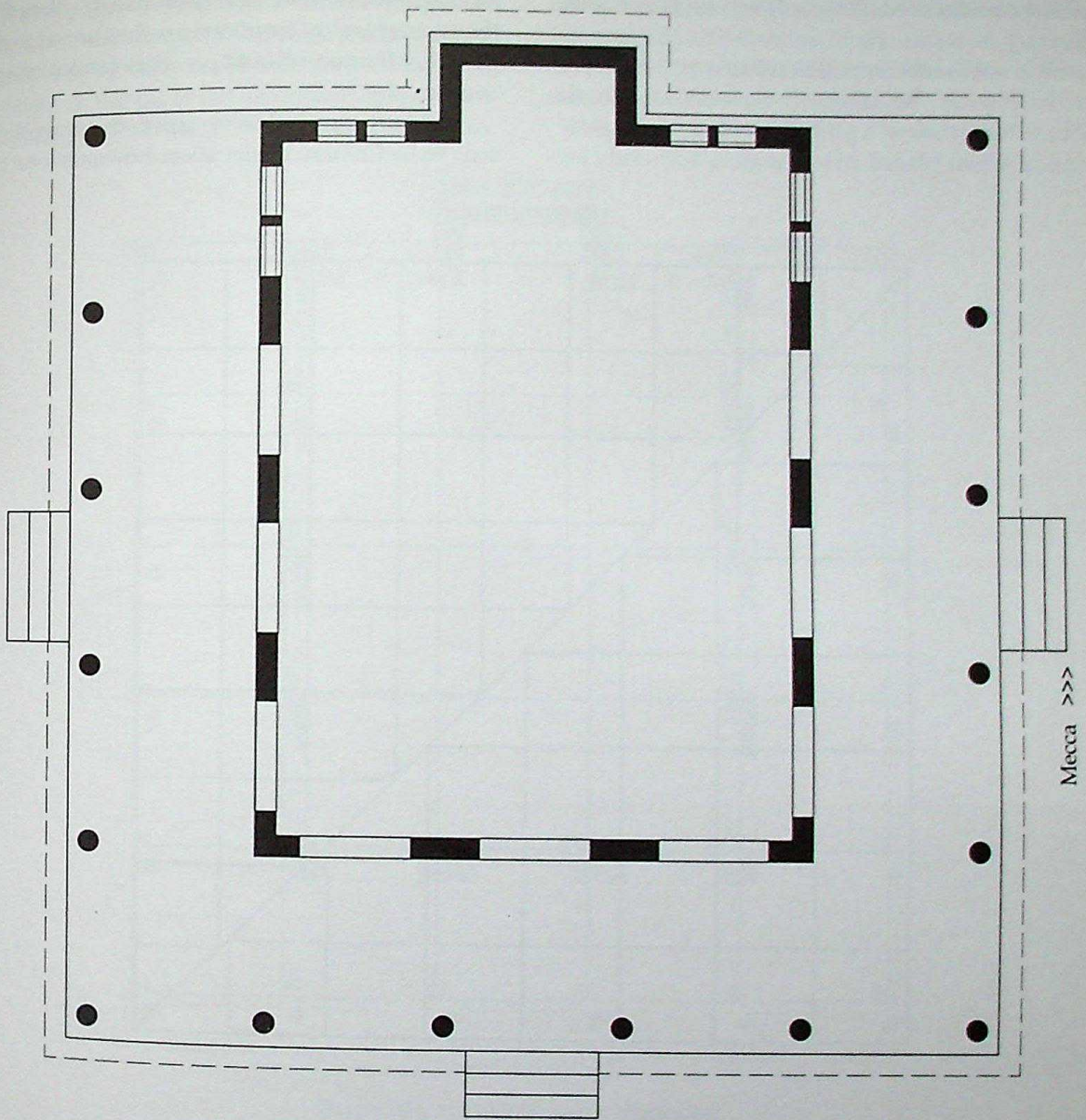
rectangle, possesses a centered window within both the north and south walls. On the west face, flanking the *mihrab* are two smaller windows, set higher on the wall than the north and south windows. Finally, the roof of the *Masjid Tranquerah* is of some interest. It is referred to as a *bumbung limas*, pyramidal in form.

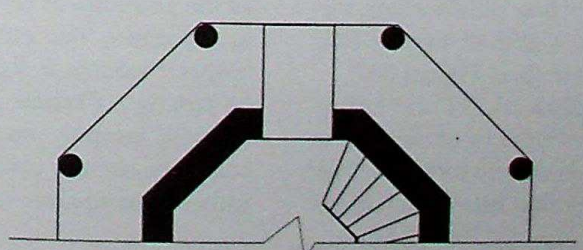
To the east and centered on the *masjid* is a minaret of singular design. This tall "minaret" is octagonal, *en plan*, and in elevation appears to

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 86 -- *Masjid Tranquerah*





CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

duplicate a multitiered Chinese "pagoda" (See: **Figure 207**).

It is with some trepidation that a grid is placed over the plan of the *Masjid Tranquerah*, an Islamic structure. Nonetheless, a grid of sixty-four and eighty-one pada when placed over the plan both indicate some applicability (See: **Figure 208**). The concept of the *Brahmásthana* must, by necessity be dropped in the consideration of a *masjid*. However, because of the placement of the six supporting pillars along the north, south and east facades, a grid of twenty-five *pada* is also seen to be applicable (See: **Figure 209**).

Islam, as both the Buddhist and Hindu faiths, practiced numerology. The influences of numbers, although not *Qur'anic*, had been deeply rooted within the Islamic cultures and to say that numbers had no influence whatsoever seems foolhardy. Nonetheless, the numerological implications that are apparent in both Buddhist and Hindu practices cannot be applied to a *masjid*.

The major influence upon this *masjid* can be seen to be Chinese in elevation, however, one cannot deny the Indian Hindu influence upon the square plan (See: **Appendix A, Plate 161**). Islamic architecture from western Asia, including India, utilized the dome as the preeminent stylistic device in the construction of mosques. The employment of the square here without a dome is significant, but, cannot be seen to be strictly a Chinese influence. The vast majority of Chinese temples are seen to be rectilinear, *en plan*, some are circular and a small number are octagonal, rather than square.

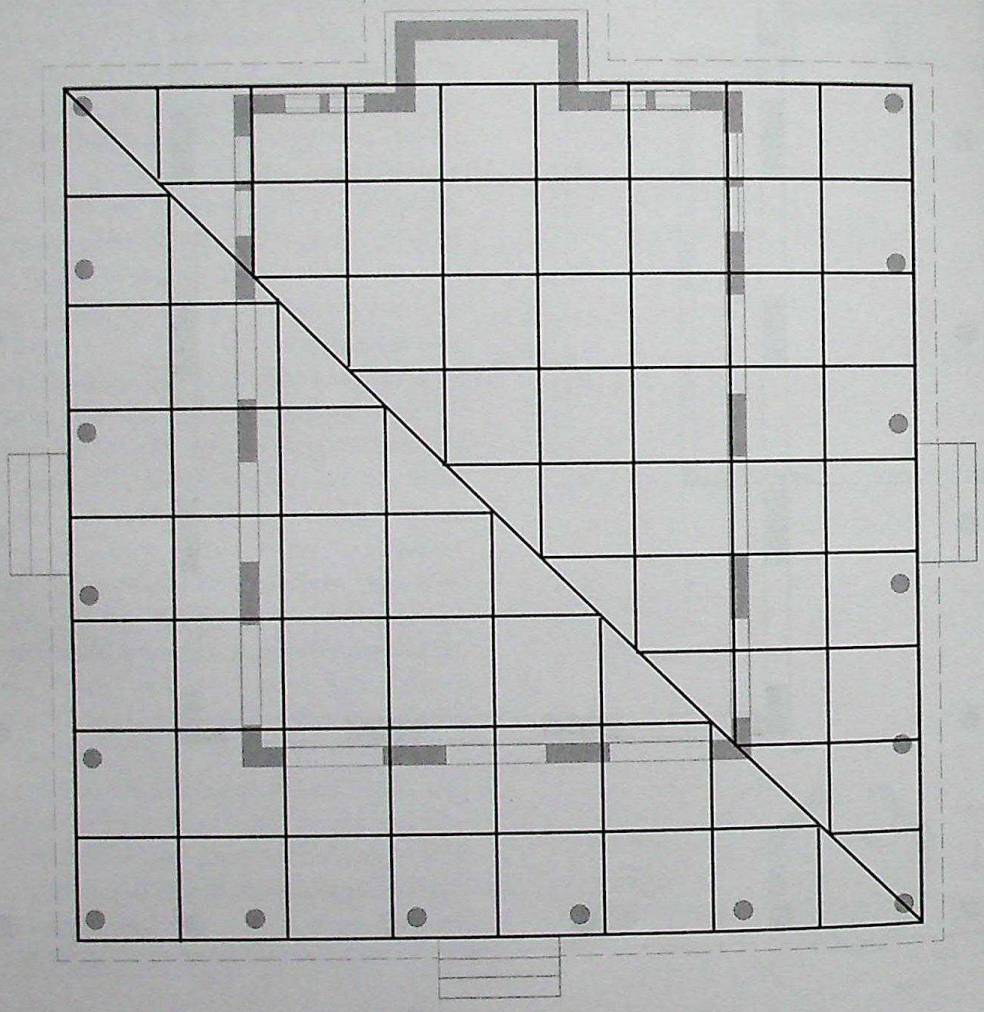


Figure 208: *Masjid Tranquerah,* indicating *Manduka Mandala* and *Paramashayika Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Masjid Terengkera (Concluded)

The significant difference between the *masjid*, in general, and the temples of both the Buddhist and the Hindu is to be seen in the light infused interior. The concept of the *gu* is not acknowledged within Islam architecture, although the cave plays a role in tales associated with the Nabi Mohamad. More importantly, the interior of the mosque, generally covers a larger area than either the Buddhist or Hindu temples as Islam is a congregational religion.

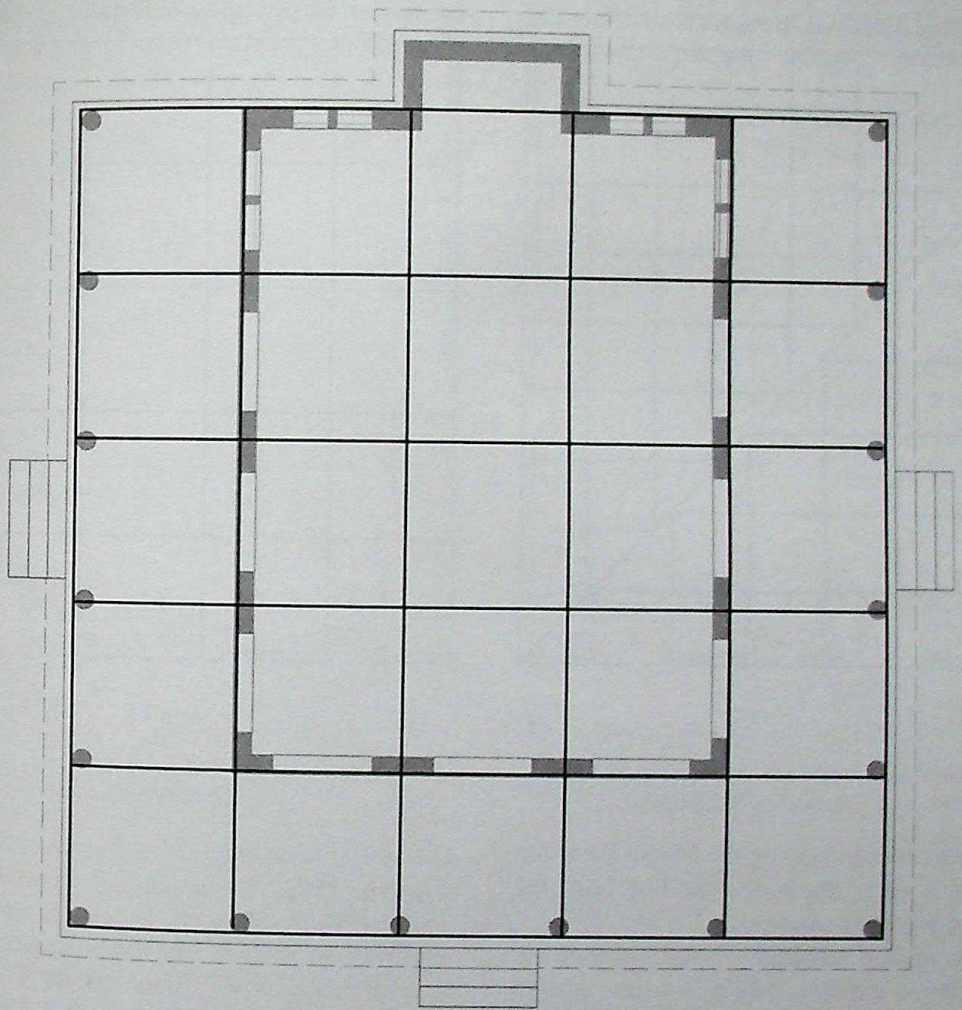


Figure 209: *Masjid Tranquerah,* indicating *Upapitha Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Masjid Kampung Laut

Kampung Laut, Kelantan, c. 1700-1750

On the east coast of peninsular Malaysia, prior to the latter part of the Nineteenth Century, there is little physical evidence of square *masjid*, due in most part to the fact that there the *masjid* there were generally constructed of wood. The climatic conditions of all of Malaysia does not foster long life for wooden structures. However, the *Masjid Kampung Laut*, Kelantan, is an example of what had been the norm--a square wooden structure.

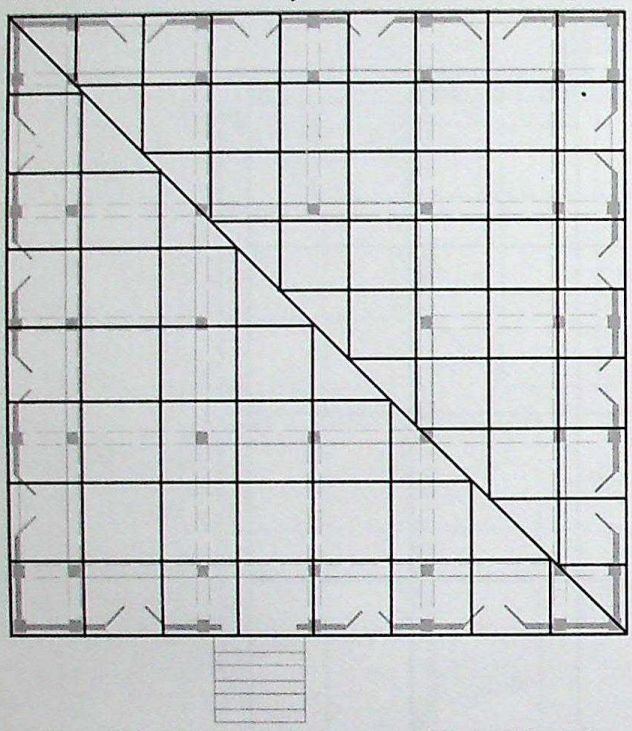


Figure 210: *Masjid Kampung Laut*, indicating *Manduka Mandala* and *Paramashayika Mandala*

The *masjid* is a square, wooden structure, without a *mikhrab* extension. Unlike the *Masjid Terengkera*, this *masjid* does not possess a veranda, the walls and openings extending to the limits of the plan. Internally, there are five ranks and files of supporting pillars, the central pillar is absent. These ranks and files support the tiered roof structure known as *bumbung lima* (See: **Appendix A, Plate 162**). There are four openings on each face of the *masjid*. One of which on the east side is the entrance.

The elevation indicates that the masjid is set upon tall wooden supports and posses the tiered roof common to the *bumbung lima*. Both elements are ecologically sound. The elevated floor is necessary in areas which, due to the abundant rainfall, are prone to flooding. In addition, the elevation allows for free passage of air beneath the floor which aids in keeping the interior cool. The *bumbung lima* also allows for the heated air of the interior to be easily vented.

As with the *Masjid Terengkera*, the application of sixty-four or eighty-one pada grid to the plan of the *Masjid Kampung Laut* is seen to be applicable (See: **Figure 210**). Even the *Brahmásthana* of the *Paramashayika Mandala* is seen to enfold the open central area, but that can only be seen to be a fortuitous coincidence. It is seen that an *Upapitha Mandala* is also applicable as it is with the *Masjid Terengkera* (See: **Figure 211**).

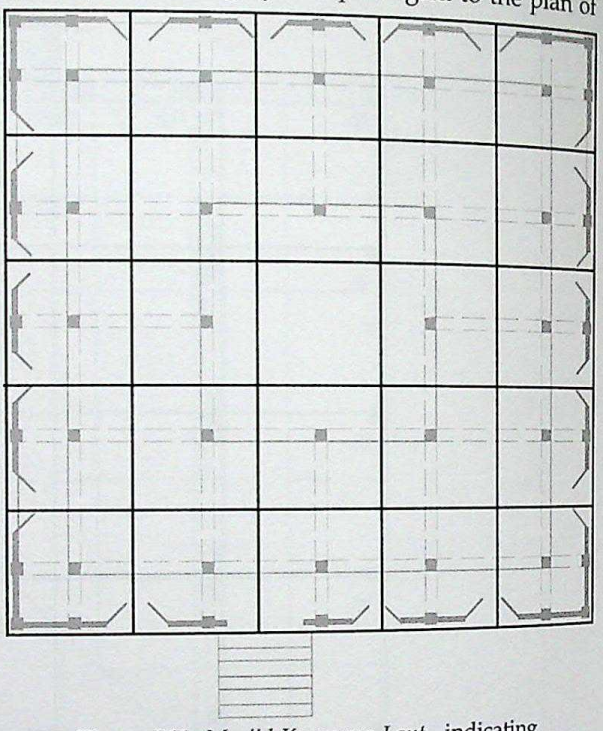


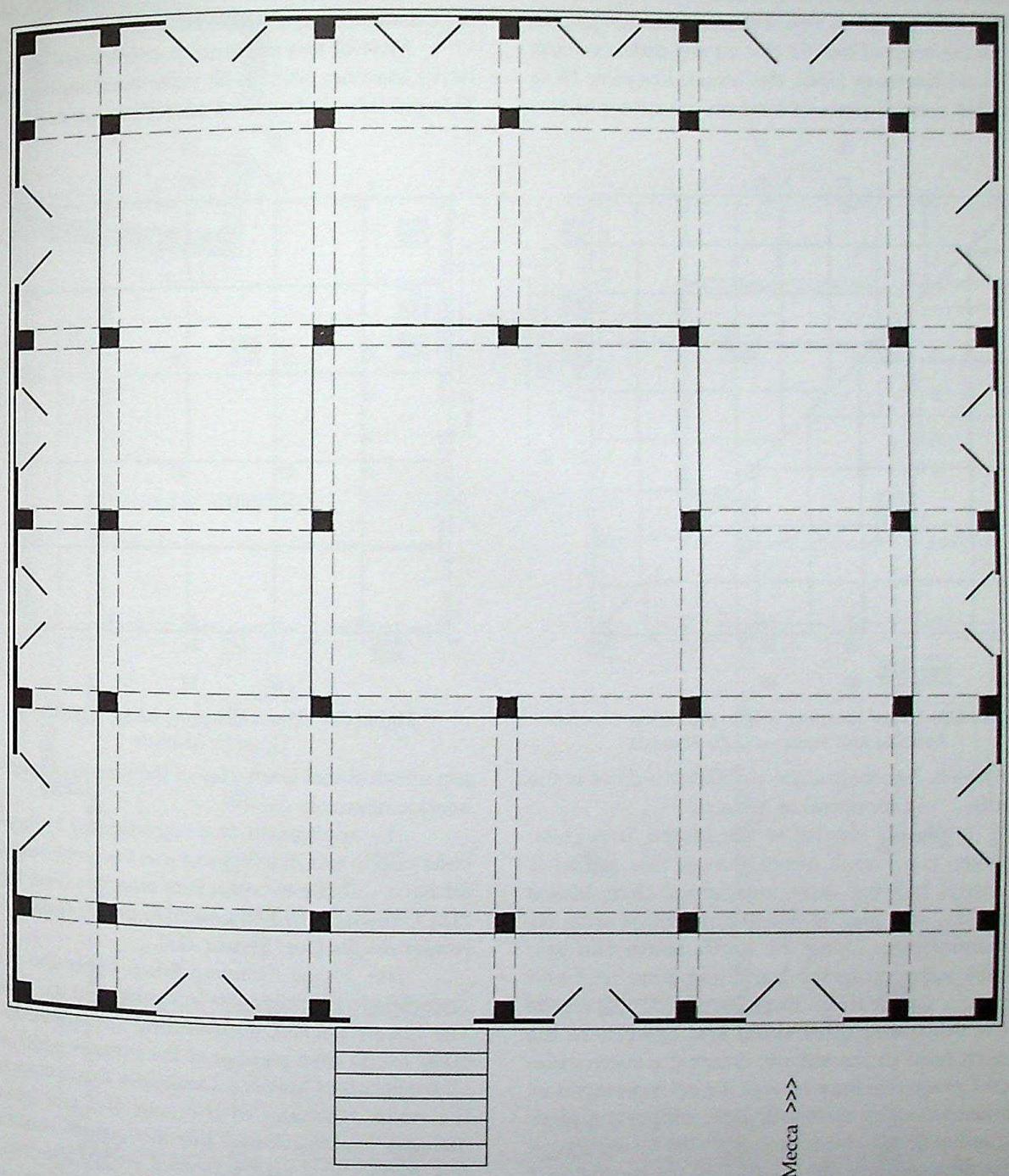
Figure 211: *Masjid Kampung Laut*, indicating *Upapitha Mandala*

The *Masjid Kampung Laut*, located on the east coast of the Malaysian peninsula, finding its design basis within the square and possessing the *bumbung lima* roof, can be seen to be parallel with the Malacca *masjids*. In design they are. However, the east coast of Malaysia possesses a cultural heritage that is different in many ways to the west coast, particularly Malacca. The *Masjid Kampung Laut* exemplifies the architectural singularity of East Coast Malaysia, particularly as seen in the states (Sultanates) of Kelantan and Terengganu.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 87 -- *Masjid Kampung Laut*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Masjid Kampung Kling

Malacca, c. 1700-1740

The *Masjid Kampung Kling*, the second of three masjid from Malacca that is considered in this study, is often referred to as a Sumateran style mosque. Set within the heart of the old city, a short distance south of *Masjid Kampung Hulu*, the *Masjid Kampung Kling* occupies a small piece of land on the corner of two busy streets. Its construction parallels the dates of the other two "old mosques" of Malacca.

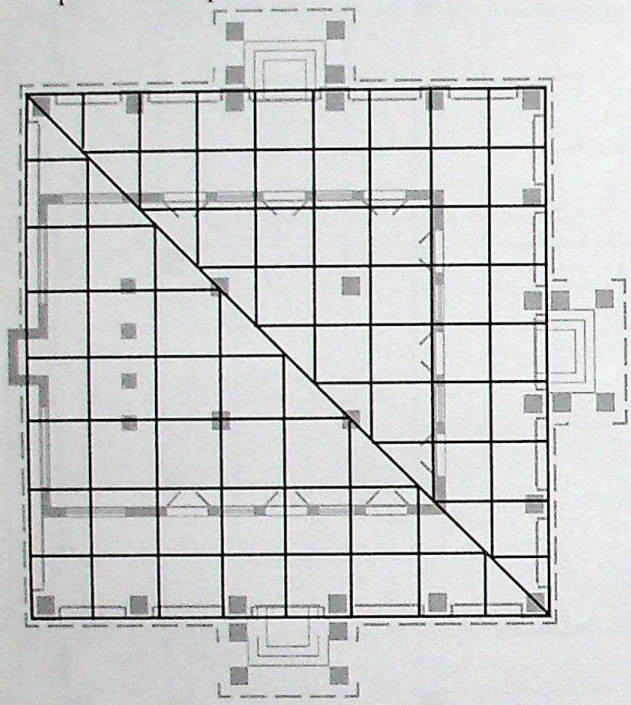


Figure 212: *Masjid Kampung Kling*, indicating *Manduka Mandala* and *Paramashayika Mandala*

Its plan is similar to the *Masjid Terengkera*. However, the overall impression of this masjid is somewhat heavier, more substantial than *Masjid Terengkera*. The plan is essentially square with six substantial piers along the north, south and east facades supporting the bumbung lima roof and creating a verandah on those three sides. The cella sets within these three sided and extends to the western limit of the square, creating a rectangular space. Centered in the west wall is a *mikhrab* extension. The interior space possesses eight supporting piers: four at the center and four to the west set within the same dimension as the spacing of the central four. Three doors, bracketing two windows, allow entrance to the interior, are to be seen in each of the covered spaces--i.e., north, south and east facades. Additionally, centered on each of these three facades are extended, rather elaborate porches.

Most of this structure is constructed of rather heavy masonry walls with wide overhanging eaves. This provides a degree of protection against the hot sun which shines every day of the year and keeps the interior relatively cool.

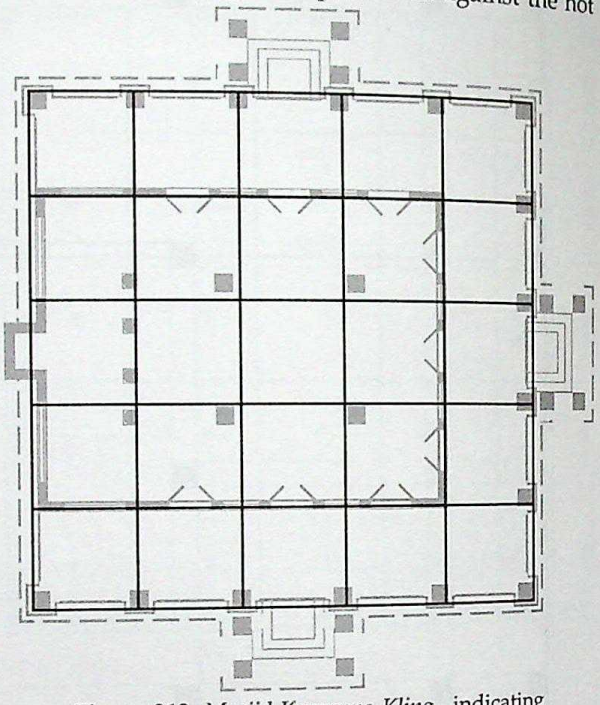


Figure 213: *Masjid Kampung Kling*, indicating *Upapitha Mandala*

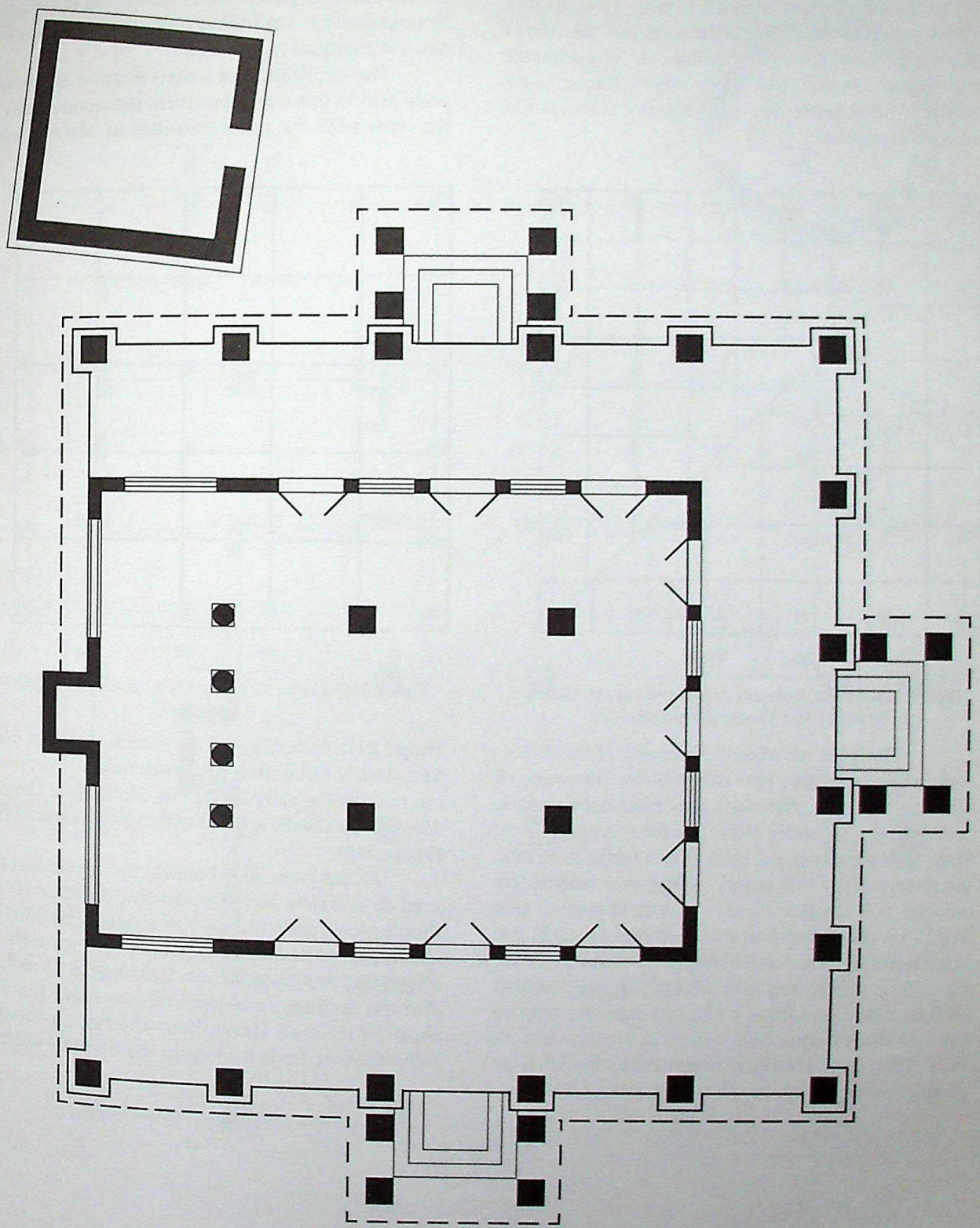
The application of a sixty-four or eighty-one pada grid to this masjid produces the same results as the have with the two previous mosques (See: **Figure 212**). Likewise, a *Upapitha Mandala* can be applied with similar results (See: **Figure 213**).

The, *Masjid Kampung Kling, unlike* the *Masjid Terengkera* to the north, sits in the heart of the old city. The closely packed, surrounding structures do not allow for an easy passage of the breezes which flow off the Straits of Malacca. Doubtless, this accounts for the wide overhang of the roof and the heavier masonry construction of this mosque. Nonetheless, this architectural gem is nestled within the confines of the old city and gleams brightly amidst its environs as would any jewel.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 88 -- *Masjid Kampung Kling*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Masjid Kampung Hulu

Malacca, c. 1728

To the north of *Masjid Kampung Kling*, outside what was the old city of Malacca, sits the *Masjid Kampung Hulu*. Its surroundings are considerably more spacious than that of its sister mosque to the south. And it possesses an octagonal minaret like *Masjid Terengkera*.

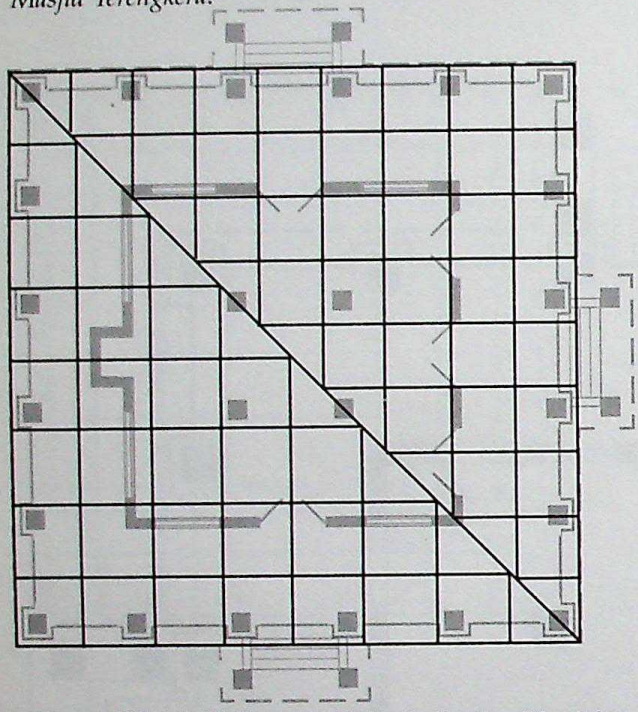


Figure 214: *Masjid Kampung Hulu*, indicating *Manduka Mandala* and *Paramashayika Mandala*

The plan of *Masjid Kampung Hulu* differs somewhat from the two other older mosques of Malacca. Like the other two, it is essentially square, covered by a *bumbung lima* roof (See: **Appendix A. Plate 163**). However, the cella of this *masjid* is square, not rectangular. Centered along the west wall of this mosque is a small *mikhrab*. As with the other two *masjid*, six pillars support the overhand on each side of the facade. The fact that in the *Masjid Kampung Hulu*, the cella is square and falls beneath an overhang on all four sides, providing a shady verandah, may be because this mosque rests within as shallow hollow of land and would not have benefitted by the full force of the cooling breezes off the Straits of Malacca. Nonetheless, its plan is closer in form to what might be considered as the Indian prototype than the other two old mosques of Malacca.

The application of a sixty-four or eighty-one pada grid to this *masjid* produces the same results as the have with the other mosques of Malacca (See:

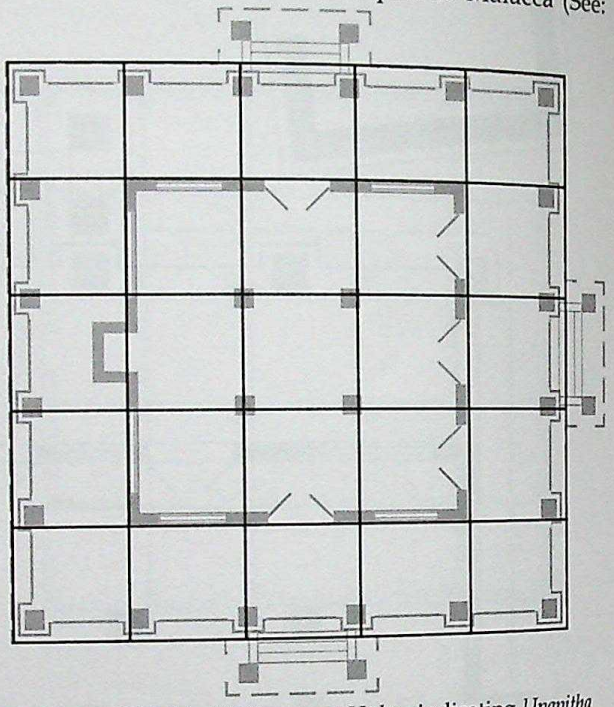


Figure 215: *Masjid Kampung Hulu*, indicating *Upapitha Mandala*

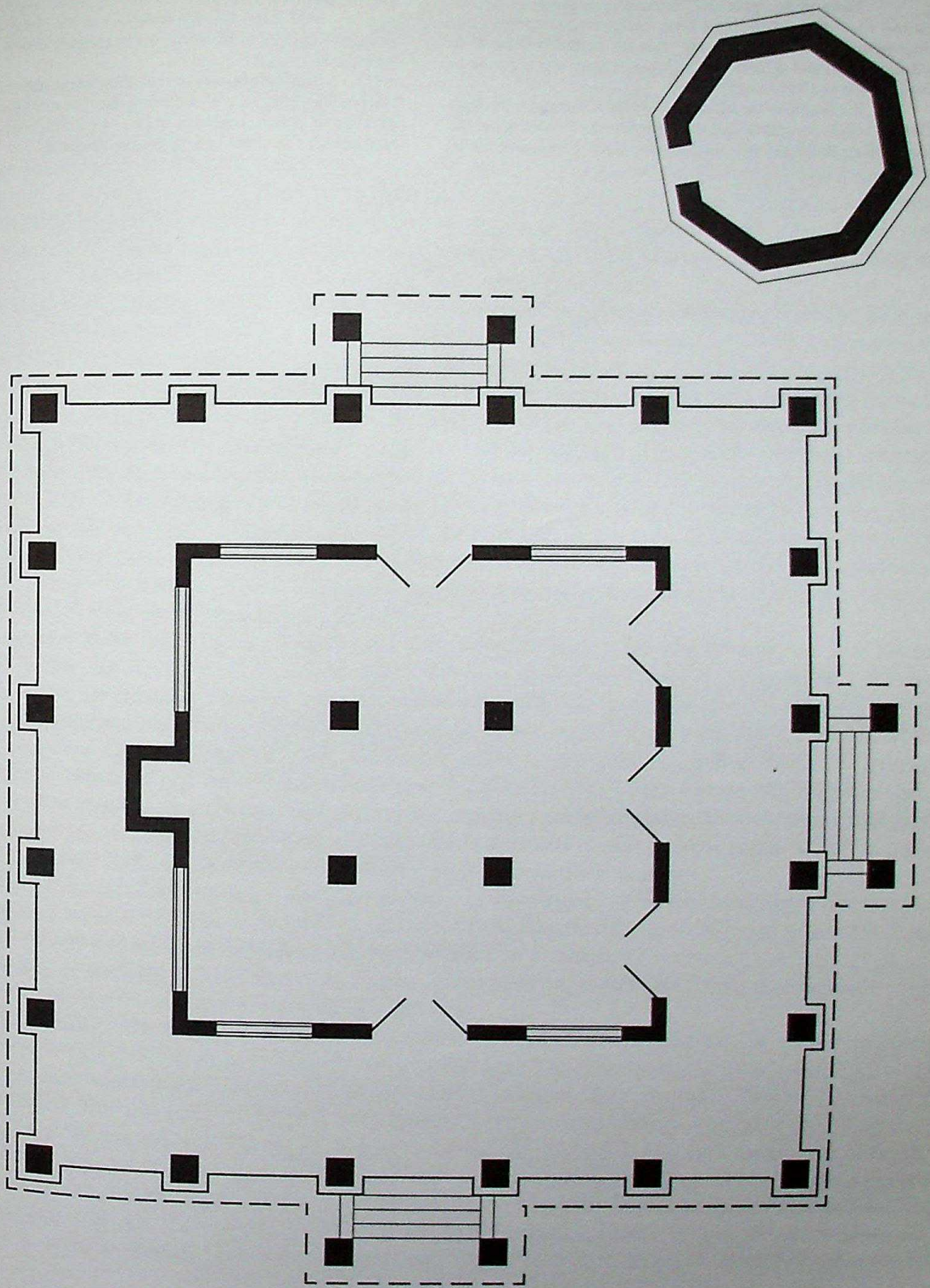
Figure 214). In both cases the central four roof ports, fortuitously fall within the *Brahmásthana*. Fortuitous, but not theologically applicable. Similarly, a *Upapitha Mandala* can also be applied with the same results (See: **Figure 215**).

As has been stated above, the application of a grid or *mandala* based upon Buddhist or Hindu theological/architectural practices to a Muslim mosque is not theologically possible. Nonetheless, the four *masjid* of Malaysia considered herein do indicate that the aesthetic/architectural precedent that had been established throughout the region through Indianization, finds fruition in these square *masjid*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 89 -- *Masjid Kampung Hulu*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Notes
(Malaysia)

[1] Those philosophic and/or theological problems revolve around the ideas of the "passive, inclusive, positive, non-congregational, non-hierarchic, etc." that are ascribed to Hinduism and Buddhism and which, in a number of cases are opposite in Islam as well as Christianity.

[2] For example: the *Mausoleum of Oljeitu*, Sultaniya; the *Tomb of Arslan Jadhib*, Sangbast; and within India: the *Diwan-i-Khas*, the *House of Raja Birbal* of Fathepur Sikri, the *Tomb of Humayun*, Delhi (See: **Appendix I, Plate 103**); and the *Taj Mahal*, Agra.

[3] WM states that the ancestors of the Melayu first settled along the east coast of Malaysia in present day Kelantan and Terengganu.

[4] The early history of the Malay peninsula and later of the Melayu has been one of suffering the imperial ambitions of a number of more rapacious states--e.g., Sri Vijaya, Portugal, Netherlands, Thailand and, of course, England.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Conclusions

Architectural plans serve many purposes. The most obvious being that they indicate where walls, doors, windows, stairs and other spatial elements occur and in relation to the whole. Ancient architects/builders (Indic: *sthapati*) were guided by numerous rules which indicated proportions, ratios and relationships. These ratios and relationships possessed for them cosmological associations and implications of enormous importance which attained iconic significance.

The parallel Buddhist and Hindu iconographic elements that permeate the plans of temples and monuments of India, Sri Lanka, Java, Cambodia, Pagan, the Thai Kingdoms, Viet Nam and even early examples of Muslim architecture in Malaysia, are too numerous to deny. A large number of scholarly writings have considered and studied the elevations, architectural detail and sculptural ensembles of these countries' architectural *oeuvre* individually, but less often in consort. Over the past number of years, while working on the compilations noted in the Bibliography, this author became aware of certain parallels, certain similarities in the plans of various structures allied with the Buddhist and Hindu traditions. These iconographic parallels manifest themselves in seven related forms--i.e., 1) the square and the circle as exemplified in the use of the *mandala*, 2) the plan as a structural support for iconography, 3) the plan as a foundation for the sacred cave, 4) the plan as a foundation for the sacred mount, 5) the divine duality, 6) the repetition of certain numerical elements and 7) the whole as a manifestation of theological/cosmological ideals.

The plans of the early Indian temples from the simple square--e.g., the *Parvati Temple* at Nachna (**Plate 94**) or the *Shiva Temple* at Bhumara (**Plate 95**)--or the circular *stupa*--e.g., the *Stupa I* at Sanchi (**Plate 13**) or the *Thuparama Dagoba* at Anuradhapura (**Plate 14**)--became elaborated upon, particularly in the Common Era. Within the Hindu temples extensions (*rathas*) in the form of the *triratha* and *pancharatha* broke up the simple square, adding interest to the plan--e.g., *Brahmeshvara Temple* at Bhuvaneshvar (**Plate 25**) or the *Vijayalaya-colisvara Temple* at Narittamalai (**Plate 96**). Still the square remained as the basis for the design--the immutable square, which connotes stability, the unchanging, the manifestation of The Absolute. This is particularly evident in the garbha-griha which is nearly exclusively square with small redentions at the corners to avoid the *marmas*.

Within the Buddhist tradition, the circular plan of the *Stupa I* at Sanchi also saw elaboration in the addition of square bases or terraces--e.g., *Ruvanveliseya Dagoba* at Anuradhapura (**Plate 15**). Later, in the Indianized states, these terraces took on a *triratha* or *pancharatha* form--e.g., *Borobudur* in Java (**Plates 28-31**), or the *Schwe Zigon Pagoda* at Pagan (**Plate 55**). Yet, for the Buddhist the circle remained central, a manifestation of the celestial and The Divine.

Virtually all of the temples and/or monuments of the Brahmanic-Hindu--i.e., post-Vedic--and Buddhist faith found their design genesis within the *mandala*. The *mandala* which originally was conceived of as possessing a number of smaller squares (*pada*) within a square. The total number of *pada* on one side was always a √, ranging from one to one-thousand-twenty-four *pada* (32 being the √ the latter) (See: **Plates 1-4**; see **Figure 8**). It is a form rooted in theological and cosmological myth/history which appears to have pervaded the Orient in one form or another. One can see a certain relationship to *feng shui* geomancy and/or the ancient "magic squares" of China (See: **Figures 3-6**). The square *mandala* was not the only form utilized by the Hindu, although it was almost exclusively employed in temple design. There are exceptions. They being a number of early Hindu temples

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

particularly in the Kerala region which utilized the circle--e.g., the *Shiva Temple* of Indor (**Plate 20**), the *Subrahmanya Temple* at Manjeri (**Plate 21**) and the *Vijayalaya-colisvara Temple* at Narittamalai (**Appendix A, Plate 96**), the *Shiva Temple* at Masaon (**Appendix A, Plate 97**), and the *Shiva Temple* at Chandrehe (**Appendix A, Plate 98**).

The early Hindus did view the circle as an acceptable form in the layout of a city as noted in the *Mánasára* (See: **Plate 5**) and also constructed a circular *Vastu Purusha Mandala* (*Manduka Mandala*) (**Figure 10**). In addition, they applied the same concepts found in the "magic square" to the "magic circle" (See: **Figures 6 & 7**; see: **Plate 1-c**). Yet, the square *mandala* remained preferred, preeminent form in the design of Hindu temple plans as it exemplified the Divine One.

The Buddhist, in contrast, saw the circle as the theological/cosmological ideal rather than the square. The eschewal of the square as the central design form may have been a not so subtle indicator of the new way, the new faith, different and distinct, but coming out of the old way, the parent faith. The circle without beginning, without end in which The Infinite One is manifest, the circle which connotes movement as well as immutability and perfection, becomes their design locus. The circle is a circle as the square is a square--its change can only be found in its dimension, never its shape. Its early manifestation is to be found in the *stupa* form--e.g., *Stupa I* at Sanchi (**Plate 13**), the *Thuparama Dagoba* (**Plate 14** and **Appendix A, Plate 91**) and *Ruvanveli Dagoba* (**Plate 15**and **Appendix A, Plate 92**) both of Sri Lanka--and later in forms that incorporate the square as a base element--e.g., *Borobudur* (**Plate 28**), the *Bayon* (**Plates 50 & 51**), and the *Myin-Pya-Gu* of Pagan (**Plate 54**). Later Buddhist cultures of the region appear to utilize the square in lieu of the circle--e.g., the Thai Kingdoms' *Chedi Wat Kukut* at Lamphun (**Plate 67**) and *Chedi Wat Chang Lom* at Si Satchanalai (**Plate 68**).

Indeed, some appear to abandon even the square and opt for a rectangular design format. Early forms of both Hindu and Buddhists temples too incorporated the rectangle rather than the square or circle as a total design ideal--e.g., the *Durga Temple* (**Plate 19**), the *Kilatali Shiva Temple* (**Plate 22**), the *Tivanka Pilimage* (**Plate 24**) or the *Chandi Sari* (**Plate 36**). Yet in all cases of early Buddhist and Hindu temple design, the circle and/or the square can be seen as an elemental principle of the whole. The Hindu temples of the Khmer frequently surround their sacred mounts with rectangular girdle walls--e.g., the *Bakong* at Roluos (**Plate 40**) as well as the *Bakheng* (**Plate 41**) and the Ta Keo (**Plate 42**) both at Angkor--but, the sanctuary mounts are square as are the various sanctuaries and shrines which adorn these mounts. However, in later temples, particularly Buddhist, the application of the square is difficult or impossible to utilize. This is especially true when considering the temples of Pagan and the Thai Kingdoms--e.g., the *Naga Yon* (**Plate 56**) or the *That-Byin-Nyu* (**Plate 58**) of Pagan, and the *Wat Phra Chao Phanan Choeng* of Ayutthaya (**Plate 69**) or the *Wat Phra Chetuphon Wimonmangkhalaram* (**Plates 80 & 81**) of the Rattanakosin. A rectangle is virtually impossible to be made to conform to a square grid.

In several examples the square, or square element is rotated, creating a circular-like form--e.g., the *Shiva Temple* at Indor (**Plate 20**)--or it is combined, one within the other--e.g., *Subrahmanya Temple*, Manjeri (**Plate 21**); and *Vijayalaya-colisvara Temple*, Narittamalai (**Appendix A, Plate 96**)--or the design of the temple is such that the plan, generally cross-axial, fits either within a square or when rotated 45^0 also "fits" the square--e.g., *Chandi Kalasan*, Java (**Appendix A, Plate 108**); and *Wat Kaew*, Chaiya (**Appendix A, Plate 142**).

It is of interest to note that when the circular *Manduka Mandala* is applied over the rectangle of a number of plans much, if not all of the major design elements fit comfortably within this circular element. This can be seen, for example, in the plans of: *Naga Yon* (**Figure 133**), the *That-Byin-Nyu* (**Figure 141**), the *Wat Phra Chao Phanan Choeng* (**Figure 170**) and the *Wat Phra Chetuphon Wimonmangkhalaram* (**Figure 198**), as well as virtually all the other rectangular plans. Even the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridw

Digitized by Arya Samaj Foundation Chennai and eGangotri

rectilinear, central ensemble of the *Bayon*, with its Hindu based architectural heritage, along with its circular sanctuary conforms to the circular *Manduka Mandala* (**Figures 121-122**).

Therefore, it is seen in virtually every plan under consideration as well as the vast number which fall beyond the purview of this study, that the *mandala*, whether square or circular, is the elemental design element in both Buddhist and Hindu temple architecture as well as other major architectural forms allied to different faiths within the region--i.e., the Islamic *Tomb of Humayun* at Delhi (**Appendix A, Plate 103**) as well as the *Masjid Terenhkera* (**Plate 161**) and the *Masjid Kampung Laut* (**Plate 162**) both of Malaysia.

The extensions of *rathas* in the Indian archtypical temple plan do serve several purposes beyond being structural iconographic supports. The *rathas* visually and physically break a flat wall creating shadows and buttressing the vertical by creating secondary vertical elements. They frequently mirror the shape of the internal space whether of the *garbha-griha* or the *mandapa*. There is considerable evidence that they add to the structural integrity of the whole, particularly when tall *shikharas* are employed. The *rathas* serve a basic structural design purpose as opposed to "applied design" which may either be in the form of decorative *bas* or high relief, mouldings of dubious aesthetic value, and "architectural" indentions, extensions, columns and piers all of which are utilized in a manner and profusion that in some cases offers little relationship to the underlying form. "Since for the Indian priest-architect the square was the mystical, absolute basic form, which did not permit any variation in the course of construction, it could all the more easily be embellished with abundant decoration, and could even be virtually obscured from, view."[1] To the western (European) aesthetic the plethora of architectural and sculptural accoutrements may seem to be excessive. Nonetheless, these various "details" serves a very real need--i.e., the breaking up of the surfaces which under the bright and unrelenting sun of the region would be irritating to the sensitive eye. The shadows created by these myriad forms, soften the glare and create patterns of no mean interest. One can see parallels in the Gothic cathedrals of southern Europe--e.g., the cathedral of Burgos, Spain--in which the exterior is festooned with an abundance of sculptural and architectural detail, setting it apart from the more austere northern European cathedrals. Not only as a means of breaking up the surface, the sculptural detail offers a didactic element to those who were largely illiterate--much in the same way that the portal sculptures and stained glass windows offered to the Romanesque and Gothic peasantry of Europe.

In addition to the thick masonry walls, the employment of the various architectural details and sculpture create varying shadows as noted. The thick masonry walls and the shadows that were created aided in diminishing the heat created by the bright sun, thereby cooling the interior much in the same way as the flanges or fins on a cylinder head cools an internal combustion engine. Also the thick walls transfer their external temperature to their interior surface at a much slower rate--the variance may be as much as fifteen or twenty degrees. This shifting and transference of temperature in what is called the "flywheel" effect moderates the interior (cella or *garbha-griha*) temperature. This, too, underlines the cave image, the place of refuge both physical and spiritual.

Likewise, the walls of many of the temples appear overly thick. This may be explained by the use of brick masonry by many cultures--notably in Pagan and the Thai kingdoms--or where stone masonry is employed, it is primarily utilized in the form of the corbelled arch. Therefore, with the addition of tall towers (*shikhara*), thick walls become an engineering necessity to support the weight of the towers in lieu of the use of Roman or ogive vaulting along with traditional buttresses or flying buttresses. In general it can be said that traditional building principles, tried and true, took precedence over daring engineering feats that were practiced by European builders of the same period. This can be seen in *Brahmeshvara Temple* at Bhuvaneshvar (**Plate 25**), *Chandi Djago* in Java (**Plate 37**), *Myin-Pya-Gu* of Pagan (**Plate 54**), the *Chedi Chet Yot* of Chiang Mai (**Plate 75**), *Maha-Lingaraja Mandir* at

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bhuvaneshvar (**Appendix A, Plate 99**), the *Ananda* at Pagan (**Appendix A, Plates 129-131**), *That-Byin-Nyu* (**Appendix A, Plates 132-133**), and the *Prang, Wat Arun Rajtharam* (**Appendix A, Plates 154 & 155**).

As the caves employed by the a number of the hermit-ascetics were considered as a vehicle for the devotee to commune with the Sacred One in virtually every major faith, so the cellas of Buddhist and Hindu temples assumed a similar import and form. The thick walls, frequently unfenestrated, create a cave-like atmosphere within many of the main sanctuary's cella. For both the Buddhist and the Hindu, the cave (Burman: *gu*) becomes a sacred womb (Ind.: *garbha-griha*) where the Divine may be encountered--e.g., the *Durga Temple* at Aihole (**Plate 19**), the *Tivanka Pilimage* of Polonnaruwa (**Plate 24**), the *Chandi Sewu* at Prambanan (**Plate 33**), the *Bakong* of Roluos (**Plate 40**), the *Bogyoke-Mi Kubyauk* at Pagan (**Plate 62**), the *Wat Phra Si Rattana Mahathat* of Ayutthaya (**Plate 72**), and the *Khüöng-my* Shrine, Hoi-an (**Plate 84**). In a number of locales in India, subtractive, monolithic architecture is employed creating a man made cave, The carving of spaces of various sizes and uses--e.g., the *Chaitya Hall* at Karli (**Plate 16**) and the *Buddhist Cave-Monastery #1* at Ajanta (**Plate 17**)--makes the parallel obvious.

The importance of the cave finds its counterpart in the sacred mount as an expression of the theological/cosmological ideal. In essentially all the plans of temples or monuments, whether one considers either Buddhist or Hindu architecture, they indicate a foundation for the construction of a sacred mount--*Mount Meru* or *Kailasha*. Most cultures and religions look upon "he high place" as being near or approaching the Divine One--e.g., the pyramids of the Egyptians, Mayans and Aztecs; the Chinese *Temple of Heaven*; the spires of Christian churches; and the Biblical *Tower of Babel*. A plan may indicate the construction of thick walls to support a soaring *shikhara*--e.g., the *Ananda* at Pagan (**Plate 57**; **Appendix A, Plates 129-131**), the *That-Byin-Nyu* of Pagan (**Plate 58**; **Appendix A, Plates 132-133**) and the *Gawdaw-Palin* of Pagan (**Plate 60**; **Appendix A, Plates 135 & 136**)--or designate a series of stacked terraces or plinths--e.g., *Ruvanveli Dagoba* in Sri Lanka (**Plate 15**), *Borobudur* in Java (**Plate 29**), *Chandi Panataran* Sanctuary of Kediri (**Plate 38**), *Bakheng* Ensemble at Angkor (**Plate 41**), *Ta Keo* at Angkor (**Appendix A, Plate 120**), the *Mingala-zeidi* at Pagan (**Plate 64**), *Chedi Wat Kukut* of Lamphun (**Plate 67**) or *Dong-Düöng Monastery* at Dong-Düöng (**Plate 85**)--the effect, the end is the same--a representation of a palpable sacred mount. The *stupas, dagobas, chaityas* or *chedis*--an example of monumental rather than utilitarian, or space enveloping architecture--furnishes obvious examples in the *Dhamma-Yazika* at Pagan (Appendix **A, Plate 138**), the *Mingala-zeidi* of Pagan (**Appendix A, Plate 139**), *Chedi Si Liem* at Chiang Mai (**Appendix A, Plate 143**), the *Chedi Si Suriyothai, Wat Suan Luang Sop Sawan* at Ayutthaya (**Appendix A, Plate 150**), and *Prang, Wat Arun Rajtharam*, Thonburi (**Appendix A, Plate 155**). *Borobudur* (See: **Plates 28-31**), unique in the Common Era, offers a major piece of evidence in the quest for providing a perceptible sacred mount.

The indisputable presence of iconography related to the divine duality is abundant in every temple or monument under consideration. Theological/cosmological evidence is found in the Hindu *shakti-shakta* or *yoni-lingam*--exemplified in *Vishnu-Lakshmi* or *Shiva-Parvati*--or the *Vajrayana yab-yum*, or even in the Chinese *yin-yang*. The *garbha-griha* (aka Thai: *khapphathat, ruanthat*), the womb, the sacred sanctuary is generally found in the western part of a temple. The west, night and the moon are all feminine in concept and denote the power principle. Considering the Hindu structures of this study, the entrance to most face the east--the masculine direction--which is exemplified in the sun and light. The masculine denotes the idea principle. It doesn't take a great stretch of the imagination to view the *prangs* (*shikharas*) of the Khmer temples as related to the *lingam* (phallus). Yet in nearly every case the soaring Khmer sanctuaries are offset to the west on their individual temple mounts--e.g., the *Preah Ko*, Roluos (**Plate 39**); the *Bakong*, Roluos (**Plate 40**); the *Bakheng*, Angkor (**Plate 41**); and the *Ta Keo*, Angkor

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(**Plates 42 & 43**). Even the *Bakheng* (**Plate 41**), the *Ta Keo* (**Plate 42 & 43**) and the *Baphuon* (**Plate 47**) with their sanctuaries open in the four cardinal directions and holding the royal *linga* (*linga Indreshvara*) emphasizing the masculine--light rather than the dark (*garbha-griha*)--are all three offset to the west. The major exception is, of course, *Angkor Wat* (**Plates 48-49**) which is oriented to the west, the sanctuary offset to the east. This monument's *raison d'être* is seen by many scholars as being funereal in concept as the west is the direction of the nether world.

A number of the temples and monuments within this study provide reference to the Moon--the preeminent feminine "planet" in both Buddhist and Hindu astronomy and astrology. The *Bakheng* (**Plate 41**) is seen as a major lunar icon. Yet, the soaring, open *shikhara* is unremittingly masculine. As will be seen below, virtually all of the temples and monuments possess both feminine and masculine numerical associations in abundance. The *stupa*, the archtypical Buddhist icon, exemplifies this male-female duality in the circle--a feminine symbol--and the square--associated with the masculine gender. The circular *anda* is counterbalanced upon a square base in later manifestations. In addition, the soaring *chattravali* (Burman: *hti*; Sinhalese: *kota*) is seen as an axis or celestial axle, piercing the circular (spherical) *anda*. A more graphic male-female symbol cannot be imagined.

Numbers, as has been noted play a vital role in the design of both Buddhist and Hindu temples and monuments. In the numerology of both faiths there are masculine numbers--i.e., odd numbers--and feminine numbers--i.e., even numbers. The two *mandalas* which are frequently utilized by the Hindu as a basis for temple design are the *Manduka Mandala* of sixty-four *padas*, the √ being eight, both feminine numbers; and the *Paramashayika Mandala* of eighty-one *padas*, the √ being nine, both masculine numbers. The numbers seven, fourteen, twenty-one and twenty-eight are, likewise, important as they refer to the phases of the moon--i.e., seven refers to the planet *Ketu* (the descending node of the moon), fourteen is associated with the full moon, twenty-one refers to the waxing moon and twenty-eight is associated with the new moon--e.g., *Thuparama Dagoba* at Anuradhapura (**Plate 14**), the *Chaitya Hall* of Karli (**Plate 16**), the *Garden Pavilion* in Delhi (**Plate 27**), the *Chandis Lumbung* (**Plate 32**) and *Sewu* (**Plates 33 & 34**) of Prambanan, *Wat Chedi Chet Yot* at Chiang Mai (**Plate 75**), the *Mahabodhi Temple* at Pagan (**Appendix A, Figure 148**), *Myin-Pya-Gu* of Pagan (**Plate 54**), *That-Byin-Nyu* of Pagan (**Plate 58**), *Prasat Hin Phimai* at Khorat (**Plate 44**), the *Bakheng* (**Plate 41**), *Baphoun* (**Plate 47**) and *Angkor Wat* of Angkor (**Plates 48-49**), *Wat Chai Watthanaram* of Ayutthaya (**Plate 79**), *Wat Phra Chetuphon* of the Rattanakosin (**Plate 81**), *Chedi Wat Kukut* at Lamphun (**Plate 67**), and *Wat Phra Chao Phanan Choeng* of Ayutthaya (**Plate 69**). The numeral three, connoting the divine family, appears again and again, underlying its importance. It is frequently seen in the arrangement of shrines on an upper terrace--e.g., *Loro Jonggrang*, Prambanan, Java (**Plate 35**); *Preah Ko*, Roluos (**Plate 39**); *Paya-Thon-Zu*, Pagan (**Plate 66**); and *Wat Phra Phai Luang*, Sukhothai (**Appendix A, Plate 144**). It is also manifested the three interior spaces of *Chandi Sari*, Prambanan, Java (**Plate 36**) or the series of three niches holding Buddha images on the faces of *Chedi Si Liem*, Chiang Mai (**Appendix A, Plate 143**). Five a magical number, composed of the sum of the first feminine and masculine numbers (two and three), finds representation in the quincunx arrangement of a number of temples and monuments--i.e., *Chandi Sewu*, Prambanan, Java (**Plate 33**); *Chandi Panataran* Sanctuary, Kediri, Java (**Plate 38**); *Bakheng*, Angkor (**Plate 41**); and *Ta Keo*, Angkor (**Plate 42**). A number of the temples and monuments employ five terraces or levels in their design); *Borobudur*, Java (**Plate 28**); *Bakheng*, Angkor (**Plate 41**); *Ta Keo*, Angkor (**Plate 42**); *Baphuon*, Angkor (**Plate 47**); *Angkor Wat*, Angkor (**Plate 48**); *Shwe-Zigon Pagoda*, Pagan (**Plate 55**); *Dhamma-Yazika*, Pagan (**Plate 63**); *Mingala-zeidi*, Pagan (**Plate 64**); and *Wat Phra Si Rattana Mahathat* (central shrine), Ayutthaya (**Plate 72**). There are two unique temple plans from Pagan which are thoroughly rooted in the number five--i.e., The *Dhamma-Yazika* (**Plate 63**) and the *Pentagonal Temple* (*Pancha-Buddhas*) (**Plate 65**) in which both are based upon the pentagon. Eight, one of the most auspicious numbers, finds examples in

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

virtually all the temples and monuments under consideration. It finds special application in the Buddhist *Vatadage* (**Plate 23**) as well as *Borobudur* (**Plates 28-31**), and the Hindu *Angkor Wat* (**Plates 48-49**). The numbers twenty, forty and sixty are three numbers which are especially sacred to the Buddhists. They relate to the path towards enlightenment); *Thuparama Dagoba*, Sri Lanka (**Plate 14**); *Ananda* Temple, Pagan (**Plate 57**); *Chedi Wat Chang Lom*, Si Satchanalai (**Plate 68**); *Wat Mahathat*, Sukhothai (**Plate 70**); *Wat Phra Ram* (central shrine), Ayutthaya (**Plate 73**); and *Shwe-Zigon Pagoda*, Pagan (**Figure 55**).

When considering Buddhist and Hindu architecture, the whole understandably becomes a manifestation of theological/cosmological ideals. Within the Hindu tradition a temple structure and/or its environs is often referred to as a *ratha* and/or *vimana*--a celestial, a divine vehicle. The temple is conceived of as not only being the locus of cosmological power, but also as a celestial vehicle which transports the devotee to the spiritual realms. Therefore, the requirements for the construction of such a "vehicle" must, by sacred necessity, be extremely precise and within accepted rules. Any deviation beyond the bounds of these divinely inspired laws nullifies the structure and its theological/cosmological *raison d'être*. These rules, theses laws are in power even before the primary consecration of the site, construction and the structure proper. This basic theological concept is different from that of a Christian church. It is, to be sure, a sacred and holy place distinct from the structures and environs of the temporal world, but not a vehicle. The Christian church is a locus of ecclesiastical power, but not a chariot to heaven. One may argue that certain locales, places of pilgrimage may appear to possess this sacred quality--e.g., Lourdes or Santiago de Compastella. However, the *ratha* or *vimana* quality of the Hindu temple is essentially different from that of other major religions.

Buddhist structures, particularly within the *Theravada* tradition, are also essentially different from the Hindu temple. Their theological/cosmological basis tends to be closer allied with the Christian tradition--i.e., they are not considered to be *rathas* or *vimanas* in the Hindu sense. They are, on the other hand, centers for worship, contemplation and merit making. Within the *Theravada* tradition, the construction of a temple or *chaitya* is in itself an act connected with worship--merit making. The major temples of Pagan and the Thai kingdoms were essentially meritorious acts by the various ruling families and secondarily acts in praise of the Divine One. Individual *Theravada* temples may enjoy certain popularity within a limited area. Few possess the importance as universal sites of pilgrimage--the exceptions being the sites of the major events of the life of the Lord *Buddha*, such as Lumbini or the Bodh Gaya temple.

Stupas, zeidis or *chedis* serve a similar purpose. They are monuments at which one worships rather than places *in which* one worships. Whereas Buddhist temples possess a Buddha image upon which the devotee may contemplate, *stupas, zeidis* or *chedis* contain some relic which merits veneration much in the same way the *Shroud of Turin* or the site of the Christ's birth in Bethlehem is venerated by a number of Christians.

There are a number of elements which are common to both faiths. In both traditions, ritual circumambulation (*pradakshina*) is a form of worship or merit. Therefore, a *pradakshinapatha* is evident in one form or another in all sacred structures.

The concept of the high place find manifestation in various towers which soar into the heavens or terraces which elevate the sanctuary above the heads of the worshippers. The structures themselves are corporeally transformed into heavenly mounts--places of unparalleled sacredness.

In both traditions, the transitory nature of life is manifest in the temples. There is a certain emphasis upon the here-and-now, however, the ephemeral, transitory quality of physical being as opposed to the desired end--*nirvana*--is a philosophical and desired end. Tradition, particularly Hindu, views the life of a temple as being no more than ninety-nine years. This concept sees relevance in the fact that many temples, particularly of the *Theravada* tradition, are constructed of transitory material--i.e., brick

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

as opposed to stone. Numerous temples over the centuries and recent decades have fallen into ruin. This may seem deplorable to the Eurocentric art historian, but of less than great concern to inhabitants of the particular locale of the temple. European architecture, particularly Roman and post-Roman is based upon permanence, incorruptibility and eternal. There seems to be high "merit" in the fact that a particular cathedral or structure is still standing and being used today--S. Sernin of Toulouse of Notre Dame of Chartres. Permanence is an extremely minor component, if any at all, of aesthetic or religious considerations of both Buddhism and Hinduism. Decay, transition is inevitable. The philosophical/ cosmological concept of the cycles of creation, sustenance and dissolution finds a protracted, knowable example in many the temples of the Buddhist and Hindu traditions.

Notes
(Conclusions)

[1] HS, p. 5.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography

Aasen, Clarence. *Architecture of Siam: A Cultural History Interpretation*. Oxford: 1998.

Abhilashiartha-chintamani.

Abhivijjo Bhikkhu. *Wat Rajapradit*. Bangkok: 1960.

Acharya, P. K. *An Encyclopaedia of Hindu Architecture*. London: 1927-1946.

_____. *Architecture of Manasara, translated from the original Sanskrit*. London: 1932.

Agrawala, V. S. *Sparks from the Vedic Fire*. Varanasi: 1962.

Ahmad, Mabel L. *The Secret Power of Names and Numbers: A Guide to your Destiny*. Bombay: 1991.

Anderson, Leona M. Vasantotsava: *The Spring Festivals of India*. New Delhi: 1993.

Anuman Rajadhon, Phraya. *Life and Ritual of Old Siam*. New Haven: 1961

Anshumadbhedagama.

Anuvit Charernsupkul. *The Elements of Thai Architecture*. Bangkok: 1978.

_____ and Vivat Temiyabandha. *Northern Thai Domestic Architecture and Rituals in House-Building*. Bangkok: 1978.

Anshumadbhedagama.

Ariswara Sutomo. *Borobudur Temple*. Jakarta: 1994.

_____. *Prambanan*. Jakarta: 1990.

_____. *Temples of Java*. Jakarta: 1992.

Asher, Frederick. *The Art of Eastern India, 300-800*. Minneapolis: 1980.

Atmadi, Parmono. *Some Architectural Design Principles of Temples in Java*. Yogyakarta: 1994.

Auboyer, Jeannine; and others. *Oriental Art: A Handbook of Styles and Forms*. Trans. Elizabeth and Richard Bartlett. New York: 1980.

Avalon, Arthur. *Shakta and Shakti*. 6 ed. New York: 1978.

Bahadur, S. P. *The Ramayana of Goswami Tulsidas*. Bombay: 1972.

Banerje, Jitendranath N. *The Development of Hindu Iconography*. 2nd ed. , Calcutta: 1956.

_____. *Pauranic and Tantric Religion: Early Phase*. Calcutta: 1966.

Banerjee, P. , et al. *Buddhist Iconography*. New Delhi: 1989.

Banerji, Sures Chandra. *A Glossary of Smriti Literature*. Calcutta:1963.

Barrack, Howard J. *The Thousand names of Vishnu (Vishnu Sahasranama from the Mahabharata)*. New York: 1974.

Bartlett, Norman. *Land of the Lotus Eaters*. New York: 1959.

Bary, Theodore de. *Sources of Indian Tradition*, vol. I. New York: 1958.

Basche, James R. *Thailand; Land of the Free*. New York: 1971.

Batchelor, Stephen. *The Tibet Guide*. London: 1987.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Beek, Steve van. *The Arts of Thailand*. Hong Kong: 1985.

Beguin, G. *Forty-one Thang-kas from the Collection of His Holiness the Dalai Lama*. Paris: 1980.

_____. *Les arts du Nepal et du Tibet*. Paris: 1987

Bell, C. *The Religion of Tibet*. London: 1968.

Bell, Eric T. *Numerology*. Baltimore: 1933.

_____. *The Magic of Numbers*. New York: 1946.

Bernard, Theos. *Hindu Philosophy*. Bombay: 1989.

Beyer, Stephan. *The Cult of Tara: Magic and Ritual in Tibet*. Berkeley: 1973.

Bezacier, L. *L'Art vietnamien*. Paris: 1954.

Beze, Claude de. *Memoirs of Father de Beze on the Life of Constance Phaulkon*. Hong Kong: 1968.

Bhagavata Purana.

Bharati, Ahehananda. *The Tantric Tradition*. London: 1965.

Bhattacharya, B. C. , *Indian Images*. Calcutta: 1921.

Bhattacharyya, Benoytosh, ed. *Guhyasameaja tantra or Tatheagataguhyaka*. Baroda: 1931.

_____. *The Indian Buddhist Iconography Mainly Based on the Seadhanamealea and other Cognate Tantric Texts of Rituals*. Calcutta: 1958.

_____. *An Introduction to Buddhist Esoterism*. London: 1932.

_____. ed. *Two Vajrayana Works*. Baroda: 1929.

Bhattacharyya, Dipak Chandra. *Studies in Buddhist Iconography*. New Delhi: 1978.

_____. *Iconology of Composite Images*. New Delhi: 1980.

_____. *Tantric Buddhist Iconographic Sources*. Delhi: 1974.

Bhattacharya, K. "Les religions brahmaniques dan l'ancien Cambodge, d'après l'épigraphie et l'iconographie," *Cahiers de l'École Française d'Extrême-Orient*; XLIX. Hanoi: 1961.

Bhattasali, N. K. *Iconography of Buddhist and Brahmanical Sculptures in the Dacca Museum*. Dacca:1929.

Bhiarsri, Silpa. *Murals of Nondburi School*. Bangkok: 1963.

_____. *Thai Buddhist Art (Architecture)*. Bangkok: 1988.

Bhikkhu, Subhaggo. (Suphaktr Purushahansa). *The Royal Rajabopit Temple (Wat Rajabopit)*. Bangkok: 1964.

Bhishagranta, K. K. (ed. and trans). *Sushruta Samhita*. Varanasi: 1963.

Bijalwan, C. D. *Hindu Omens*. New Delhi: 1977.

Binyon, Laurence. *The Spirit of Man in Asian Art*. Cambridge: 1935.

Bodrogi, Tibor. *The Art of Indonesia*. Connecticut: 1972.

Boisselier, J. *Le Cambodge, Manuel d'archéologie d'Extrême-Orient, Asie du Sud est*, Vol. I. Paris: 1966.

_____. *The Heritage of Thai Sculpture*. Bangkok: 1987.

_____. *Painting in Thailand*. Fribourg: 1976.

Boner, Alice. *Principles of Composition in Hindu Sculpture*. Leiden: 1962.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

_____ and Sadasiva Rathsarma. *Silpa Prakasa Medieval Orissan Sanskrit Text on Temple Architecture* (trans.). s. l. : 1966.

Boribul Buribhand, Luang and Griswold, A. B. *Thai Images of the Buddha*. Bangkok: 1971.

Bowie, Theodore (ed.). *The Arts of Thailand*. Indiana University: 1960.

_____, Diskul, S. , and Griswold, A. B. *The Sculpture of Thailand*. New York: 1972.

Bowring, John. *The Kingdom and the People of Siam*. Kuala Lumpur: 1969

Brake, Brian. *The House on the Klong*. New York: 1968.

Brown, Percy. *Indian Architecture* (*Buddhist and Hindu Periods*). Bombay: n. d.

Bruce, Helen. *Nine Temples of Bangkok*. Bangkok: 1960.

Brunes, Tons. *The Secrets of Ancient Geomerty and Its Use*; vols. I-II. Copenhagen: 1967.

Buitenen, J. A. B. van, trans. & ed. *The Mahabharata: 1. The Book of the Beginning*. Chicago: 1973.

_____. *The Mahabharata: 2. The Book of the Assembly Hall, 3*. The Book of the Forest. Chicago: 1975.

_____. *The Mahabharata: 4. The Book of Virata, 5*. The Book of the Effort. Chicago: 1978.

Bunce, Fredrick W. *An Encyclopaedia of Buddhist Deities, Demigods, Godlings, Saints and Demons: With Special Focus on Iconographic Attributes*. 2 vols. New Delhi: 1994.

_____. *An Encyclopaedia of Hindu Deities, Demigods, Godlings Demons and Heroes: With Special Focus on Iconographic Attributes*. New Delhi: 1999.

_____. *A Dictionary of Buddhist and Hindu Iconography--Illustrated--Objects, Devices, Concepts, Rites and Related Terms*. New Delhi: 1996.

_____. *The Yantra of Deities and Their Numerological Foundations--An Iconographic Consideration*. New Delhi: 2001.

Buribhand, Luaug Boribal. *The Royal Monasteries and Their Significance*. Bangkok: 1988.

Bussagli, Mario; John Shepley, trans. *Oriental Architecture/1: India, Indonesia, Indochina*. New York: 1989.

Cambell, Joseph. *The Masks of the God: Oriental Mythology*. New York: 1962.

Caron, François. *A True description of the Mighty Kingdoms of Japan and Siam*. London: 1671.

Chad, E. and Yimsiri, K. *Thai Monumental Bronzes*. Bangkok: 1957.

Chandra, Lokesh. *Buddhist Iconography*. New Delhi:1991.

_____. *A Ninth Century Scroll of the Vajradhatu Mandala, Indo-Asian Literatures* (Vol. 343). New Delhi: 1986.

_____ and Bunce, Fredrick W. *The Tibetan Iconography of Buddhas, Bodhisattvas and Other Deities--A Unique Pantheon*. New Delhi: 2002.

Chandra, Pramrod, ed. *Studies in Indian Temple Architecture*. Benares: 1975.

Chapin, H. B. and Soper, A. C. *A Long Roll of Buddhist Images*. Ascona: 1972.

Chattopadhyay, A. *Catalogue of Kanjur and Tanjur*. Calcutta: 1972.

Chaturvarga-chintamani.

Chawdhri, L. R. *Secrets of Yantra, Mantra and Tantra*. New Delhi: 1992.

_____. *Practicals of Yantras*. New Delhi: 1990.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Ch'en, Kenneth K. S. *Buddhism in China.* Princeton: 1964.

Chidbhavananda, Swami. *Facets of Brahman or Hindu Gods.* Tirupparaitturai: 1974.

Chin You-di. *Ban Chiang Prehistoric Cultures.* Bangkok: 1975.

Chopra, P. N. , T. K. Ravindran, N. Subrahmanian. *History of South India,* 3 Vols. New Delhi: 1979.

Chula Chakrabongse, Prince. *Lords of Life; A History of the Kings of Thailand.* London: 1967.

Clark, Walter Eugene, *Two Lamaistic Pantheons.* New York: 1965.

Coedès, George. *The Indianized States of Southeast Asia.* Honolulu: 1968.

_____. "Les Etats hindouises d'Indochine et d'Indonesie," *Histoire du Monde,* Vol III. Paris: 1948.

_____. "Arte dell'Indonesia," *Civiltà dell'Oriente,* Vol. IV. Rome: 1962.

The Committee for the Rattanakosin Bicentennial Celebration. *The Sights of Rattanakosin.* Bangkok: 1982.

The Committee for the Royal Cremation of Her Majesty Queen Rambhai Barni. *The Royal Cremation of Her Majesty Queen Rambhai Barni.* Bangkok: 1985.

Coomaraswamy, Ananda Kentish. *History of Indian and Indonesian Art.* New York: 1965.

_____. *The Mirror of Gesture.* New Delhi: 1970.

_____. *Yaksas.* 2 vol, repr. Washington: 1971.

_____. "Symbolism of the Dome," *Indian Historical Quarterly;* XIV. Calcutta: 1938, pp. 1-56.

_____. *The Transference of Nature in Indian Art.* repr. New York: 1956.

Copeland, Carolyn. *Thankas from the Koelz Collection.* Ann Arbor: 1980.

Cornell University. *Bibliography of Thailand.* Ithaca: 1956.

Crawfurd, John. *Journal of an Embassy to the Courts of Siam and Cochin China.* Oxford: 1967

Credner, W. *Cultural and Geographic Observations Made in the Tali (Yunnan) Region.* Bangkok: 1935.

Crump, Thomas. *The Anthropology of Numbers.* Cambridge: 1990.

Cunningham, A. *Maha-Bodi, or the Great Buddhist Stupa at Buddhagaya.* London: 1892.

Dagens, Bruno. *Mayamata, Traite Sanskrit d'architecture, Premiere Partie.* Paris (?): 1970.

_____. *Mayamata, Traite Sanskrit d'architecture, Deuxeme Partie.* Paris (?): 1970.

_____, ed. & trans.). *Mayamatam, Treatise of Housing, Architecture & Iconography* (2 Vols.). New Delhi: 1994.

Damrong Rajanubhab, H. R. H. Prince. "History of Siam prior to the Ayudhya Period," *Journal of the Siam Society.* XIII (2), Bangkok 1920.

_____. *Monuments of the Buddha in Siam.* Trans. Sulak Sivaraksa and A. B. Griswold with notes by Prince Subhadradis Diskul and A. B. Griswold. Bangkok: 1982.

_____. "Wat Benchammabopitr", *Journal of the Siam Society,* Vol. XXII, Part 1. Bangkok:1928.

Danielou, Alain. *Hindu Polytheism.* New York: 1964.

Das, R. C. *Numbers in Hindu Magic and Religion.* s. l. : 1913.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Das, Sarat Chandra. *A Tibetan-English Dictionary*. Calcutta: 1902.

David-Neel, A. *Magic and Mystery in Tibet*. New York: 1971.

Dayal, Har. *The Doctrine in Buddhist Sanskrit Literature*. Delhi: 1975.

de Bary, Wm. Theodore (ed.) et al. *Sources of Indian Tradition*, Vol. I. New York: 1958.

Debgunabhorn, Venerable Phra. *A History of Wat Srakesa Rajavaramahavihara*, Trans. Piyasilo (Venerable). Bangkok: B. E. 2519 (1976 A. D.).

Debroy, Dipavali and Debroy, Bibek, (trans.). *The Kurma Purana*. Delhi: n. d.

Deva, Krishna. *Khajuraho*. New Delhi: 1986

_____. *Temples of India*, 2 Vols. New Delhi: 1995.

Dhanit Yupho. *Dharmachakra or the Wheel of the Law*. Bangkok: 1974.

Dimmitt, Cornelia and van Buitenen, J. A. B. *Classical Hindu Mythology: A Reader in Sanskrit Puranas*. Philadelphia:1978.

Diskul, M. C. Subhadradis. *Art in Thailand: A Brief History*. Bangkok: 1986.

Doehring, Karl. *Buddhist Temple Building in Siam*. Berlin: 1920.

Dogra, Ramesh C. and Urmila. *A Dictionary of Hindu Names*. New Delhi: 1992.

Donnison, F. S. V. *Burma*. London: 1970.

Doroiselle, C. "The Art of Burma and Tantric Buddhism." *Archeological Survey of India, Annual Report*: 1915-1916.

Dostoyevsky, Fyodor. *The Brothers Karamazov* (trans. Constance Garnett): New York: n. d. (Modern Library edition).

Dowman, K. "Big Belly, One Tusk: Ever-present Ganesh," *Shangri-la*. IV-1:18-24, Khatmandu: 1992.

_____. and Chandra Majupuria. "Masks, Murals and Stone: Bhairab, The God of Terror," *Shangri-la*. III-1:32-30, Khatmandu: 1992.

Dowson, John. *A Classical Dictionary of Hindu Mythology*. London: 1928, repr. 1979.

Dumarçay, Jacques. *Borobudur*. Oxford: 1991.

_____. *The Site of Angkor*. Oxford: 1998.

_____ and Smithies, Michael. *Cultural Sites of Burma, Thailand and Cambodia*. Oxford: 1995.

Easwarn, Eknath. *Thousand Names of Vishnu*. Petaluma, Ca. : 1987.

Eck, Diana L. *Banaras, City of Light*. New York: 1982.

_____. *Darsan: Seeing the Divine Image in India*. Chambersburg: 1985.

Etiemble, trans. by James Hogarth. *Yuh Yu: An Essay on Eroticism and Love in Ancient China*. Geneva: 1970.

Evans-Wentz, W. Y. *The Tibetan Book of the Dead*. New York: 1973.

Fergusson, James, et al. *History of Indian and Eastern Architecture*, 2 vols. Delhi: 1967.

Fickle, Dorothy H. *The Life of the Buddha Murals in the Buddhaisawan Chapel*. Bangkok: 1979.

Fischer, Robert E. *Buddhist Art and Architecture*. New York: 1993.

Fischle, Willy H. *The Way to the Center: Symbols of Transformation in Tibetan Thankas*. London: 1982.

Five Hundred Gods of Narthang. c. 1810.

Foster, William, ed. *Early Travels in India, 1583-1619*. London: 1921.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Fouchet, Max-Pol, trans. by Brian Rhys. *The Erotic Sculpture of India*. London: 1956

Genoud, Charles. *Buddhist Wall Paintings of Ladakh*. Geneve: 1982.

Getty, Alice. *The Gods of Northern Buddhism: Their History, Iconography, and Progressive Evolution through the Northern Buddhist Countries*. Rutland, Vermont: 1962

Geshe Kelsang Gyatso. *Buddhism in the Tibetan Tradition*. London: 1984.

Glaize, M. Les *Monuments du Groupe d'Angkor*. Saigon: 1948.

Gombrich, Richard Francis. *Precept and Practice: Traditional Buddhism in the Rural Highlands of Ceylon*. Oxford: 1971.

Gonda, Jan. *Aspects of Early Vishnuism*. Delhi: 1969.

Gordon, Antoinette K. *The Iconography of Tibetan Lamaism*. New Delhi: 1978.

Goswamy, B. N. and A. L. Dahmen-Dallapiccola. *An Early Document of Indian Art*. New Delhi: 1976.

Govinda, (Lama) Anagarika. *Psycho-cosmic Symbolism of the Buddhist Stupa*. Emeryville: 1976.

Graham, W. A. *Siam*. 2 Vols. London:1924.

Gredzens, David I. *Visions from the Top of the World*. Minneapolis: 1983.

Griswold, A. B. , Lyins, E. and Diskul, S. *The Arts of Thailand: A Handbook*. Bloomington: 1960.

_____. *Dated Buddha Images of Northern Siam*. Ascuna, Switzerland: 1957.

_____. *Towards a History of Sukhodaya Art*. Bangkok: 1967.

Groslier, B. P. *The Art of Indochina: Including Thailand, Vietnam, Laos and Cambodia*. New York: 1962.

_____ and Arthaud, J. *The Arts and Civilization of Angkor*, rev. New York: 1966.

_____. *Recherches sur les Cambodgiens, d'après les textes et les monuments depuis les premiers siècles de notre ère*. Paris: 1921.

_____. *Art of the World Series: Indochina*. New York: 1962.

Grünwedel, Albert. *bSa-mbha-la I lan yig: Der Weg nach bSambhala*. Munchen: 1915.

_____. *Mythologie des Buddhismus in Tibet under Mongolei*. Leipzig:1900.

_____. *A review of the Collection of Lamaist Objects of Prince E. Ukhtomsky* (in Russian). St. Petersburg: 1905.

Guenther, H. V. *Tibetan Buddhism without Mystification*. Leiden: 1966.

_____. and C. Thungpa. *The Dawn of Tantra*. Berkeley: 1975.

Gupte, Ramesh S. *Iconography of the Hindus, Buddhists and Jains*. Bombay: 1972.

Gyatsho, S. *Tibetan Mandalas: the Ngor Collection*. Tokyo: 1983.

Hall, D. G. E. *A History of South-East Asia*. London: 1964.

Hara, O. Hashnu. *Number, Name and Colour: As Applied to Character and Fate*. New Delhi: 1995.

Harle, J. C. *Temple Gateways in South India*. Oxford:1963.

Hardy, Adam. *Indian Temple Architecture: Form and Transformation*. New Delhi: 1995.

Harshananda, Swami. *Hindu Gods and Goddesses*. Mylapore: 1981.

_____. *All about Hindu Temples*. Mylapore: 1981.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Heimann, Betty. *Facets of Indian Thought*. London: 1964.

Hejzlar, J. *The Art of Vietnam*. London: 1973.

Hindi, Seferial. *Kabala Anka Rahasya*. Jalandhar: 1992.

Hodgson, Brian H. *Essays on the Languages, Literature and Religion of Nepal and Tibet*. New Delhi: 1972.

_____. *Essays on the Languages, Literature and Religion of Nepal and Tibet together with further papers on the Geography, Ethnology and Commerce of these Countries*. Amsterdam: 1972.

Hoffman, H. *The Religion of Tibet*, trans. E. Fitzgerald. London: 1961.

Holt, Claire, *Art in Indonesia*. New York: 1967.

Hong Navanugrha, Nai. *Bronze Images of the Buddha*. Bangkok: 1927.

Hopkins, E. W. *Epic Mythology*. repr. Varanasi: 1968.

Hoskin, John. *Ten Contemporary Thai Artists*. Bangkok: 1984.

Hummel, Siegbert. *Geschichte der Tibetischen Kunst*. Leipzig: 1953.

Humphreys, Christmas. *A Popular Dictionary of Buddhism*. New York: 1963.

Humphries, Christmas. *Buddhism*. Baltimore: 1951.

"Indu" Inderjit. *Science of Symbols: Deeper View of Indian Deities*. New Delhi: 1977

Intralib, Sonthiwan. *An Outline of the History of Religious Architecture in Thailand*. s. l. (Bangkok?): 1987.

Izikowitz, K. G, (ed). *The House in East and Southeast Asia*. London: 1982.

Jackson, David P. and Jackson, Janice A. *Tibetan Thangka Painting*. London: 1988.

Jagannathan, Shankunthala. *Hinduism, An Introduction*. Bombay: 1984.

Jansen, Eva Rudy. *The Book of Hindu Imagery: The Gods and Their Symbols*. Diever: 1993.

_____. *The Book of Buddhas*. Diever, Holland: 1993.

Jisl, Lumir. *Tibetan Art*. London: 1961.

Johari, Harish. *Numerology with Tantra, Ayurveda, and Astrology: a Key to Human Behavior*. Rochester, Vermont: 1990.

_____. *Tools for Tantra*. Rochester, Vermont: 1986.

Jones, Robert B. *Thai Titles and Ranks*. Ithaca: 1971.

Jospehson, Richard. *Swoyambu Historical Pictorial*. Kathmandu: 1985.

Joti Kalyanamitra. *Six Hundred Years of Work by Thai Artists and Architects*. Bangkok: 1977.

Jung, C. G. *Mandala Symbolism*, trans. R. F. C. Hull. Princeton: 1973.

Kak Subhash. "The Solar Numbers in Angkor Wat," *Indian Journal of History of Science*. 34 (2), 1999: pp. 117+.

Karmay, H. *Early Sino-Tibetan Art*. Warminster: 1975.

Kelsang Gyatso. *Buddhism in the Tibetan Tradition*. London: 1984.

Kern, H. *Manual of Indian Buddhism*. New Delhi: 1974.

Khanna, Amar Nath. *Archaeology of India*. New Delhi: 1981.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Khanna & Co. , J. B. *Illustrations*. Madras: n. d.

Kinsley, David. *Hindu Goddesses: Visions of the Divine Feminine in the Hindu Religious Tradition*. Berkeley: 1986.

Kishore, B. R. *Dances of India*. Delhi: n. d. (1988)

Kramrisch, S. *The Art of Nepal*. New York: 1964.

_____. *The Hindu Temple*. repr. New Delhi: 1976

_____. *The Hindu Temple*. Calcutta: 1946.

_____. "The Temple as Purusha," *Studies in Indian Temple Architecture*; ed. Pramod Chandra. Benares: 1975, pp. 40-47.

Kumar, Ravindra. *Secrets of Numerology: A Complete Guide for the Layman to Know the Past, Present and Future*. New Delhi: n. d.

Kurma Purana. Ahibhushan Bhattacharya, trans. Varanasi: 1972.

Lagman, Emma McClay. *Buddhism in America*. Chicago: 1978.

Lalou, M. *Iconographie des etoffes peintes d'apres le Manjusrimulakalpa*. Paris: 1930.

_____. *Repertoire du Tanjur d'apres le Catalogue de P. Cordier*. Paris: 1933.

_____. *Les religions du Tibet*. Paris: 1957.

La Loubere, Simon de. *The Kingdom of Siam*. Kuala Lumpur: 1969.

La Plante, John D. *Asian Art*. Dubuque: 1992.

Lauf, Detlef Ingo. *Tibetan Sacred Art; The Heritage of Tantra*. Berkeley: 1976.

_____. *Secret Revelations of Tibetan Thangkas*. Freiburg: 1976.

_____. *Secret Doctrines of the Tibetan Book of the Dead*. Boulder: 1977.

Lcan-skya Qutugtu Rol-pahi-rdo-rje. *sKu-brnan-brgya-phrag-gsum* or *sKu-brnan-sum-brgya* "Three-hundred Icons". 1736-1795.

Leeson, Francis. *Kama Shilpa: A Study of Indian Sculpture Depicting Love in Action*. Bombay: 1962.

Leksukhum, Santi. *The Redented Added-Angled Chedis and the Rabbeted-Angled Chedis of the Ayutthaya Period*. Bangkok: 1986.

Le May, Reginald. *A Concise History of Buddhist Art in Siam*. Tokyo: 1963.

_____. "Introduction to Study of Sculpture in Siam," *Burlington Magazine*. London: 1929.

Lessing, Ferdinamd D. *Yung-Ho-Kung: An Iconography of the Lamaist Cathedral in Peking*. Stockholm: 1942.

Liebert, G. *Iconographic Dictionary of the Indian Religions*. Leyden: 1976.

Lim Jee Yuan. *The Malay House: Rediscovering Malaysia's Indigenous Shelter System*. Pulau Pinang: 1987.

Liu, Lizhong. *Buddhist Art of the Tibetan Plateau*. Hong Kong: 1988.

Lowry, J. *Burmese Art*. London: 1974.

_____. *Tibetan Art*. London: 1973.

Luce, G. H. *Old Burma, Early Pagan*, 3 vols. New York: 1969.

_____. *The Greater Temples of Pagan; The Smaller Temples of Pagan; Fu-kan-tu-lu; The Tan and the Ngai;Countries Neighboring Burma; The Ancient Pyu; Economic Life of the Early Burman*. Burma Research Society, Fiftieth Anniversary Publication, no. 2. Rangoon: 1960.

Lunet de Lajonquiere. *Inventaire descriptif des Monuments du Cambodge* (3 Vols.). Paris: 1902-11.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Lurker, Manfred. *Dictionary of Gods and Goddesses, Devils and Demons*. London: 1987.

Lyons, Elizabeth. *The Tosachat in Thai Painting*. Bangkok: 1971.

_____. *Thai Traditional Painting*. Bangkok: 1973.

MacDonald, A. and A. V. Stahl. *Newar Art*. Warminster: 1979.

Mahabharata.

Mahapatra, Sthapaka Miranjana. *Silpararnakosa: A Glossary of Orissan Temple Architecture*. New Delhi: 1994.

Mahathera, Chao Khun Phra Tepsiddhimuni. *The Path to Nibbana*. Bangkok: 1982.

Malla, Kalayana, trans. by F. F. Arbuthnot & Richard F. / Burton. *Ananga Ranga: Stage of the Bodiless One, The Hindu Art of Love*. New York: 1964.

Mallmann, M. T. de. *Introduction a l'iconographie du tantrisme bouddhidtique*. Paris: 1975.

_____. *Etude iconographique sur Manjushri*. Paris: 1964.

Mani, Vettam. *Puranic Encyclopaedia*. Delhi: 1975.

March, Lionel, et al. *The Geometry of Environment*. Cambridge: 1974.

Marchal, H. *L'Architecture comparée dans l'Inde et l'Extrême-Orient*. Paris: 1944.

Martin, E. O. *The Gods of India: Their History, Character and Worship*. Delhi: 1972.

Matics, K. I. *A History of Wat Phra Chetupon and Its Buddha Images*. Bangkok: 1989.

Minaev, I. P. (I. P. Minayeff). *Recherches sur le Bouddhisme*. Paris: 1894.

Miksic, John. Borobudur: *Golden Tales of the Buddhas*. s. l. (Indonesia): 1996.

Mitchell, A. G. *Hindu Gods and Goddesses*. London: 1982.

Mitra, Debala. *Buddhist Monuments*. Calcutta: 1971.

Mongolian Kanjur (Mon. : Monggol ganjurun). 1717-1720.

Moor, Edward. *The Hindu Pantheon*. New Delhi: 1981 (repr.).

Monier-Williams, M. *A Sanskrit-English Dictionary*. Oxford: 1899.

Mookerjee, Ajit. *Tantra Art*. s. l. : 1967.

_____. *Ritual Art of India*. London: 1985.

_____. *Kali, the Feminine Force*. New York: 1988.

_____ and Khanna, Madhu. *The Tantric Way: Art-Science-Ritual*. London: 1996.

Morgan, W. S. *Kisah Tanah Melayu*. Singapore: 1949.

Muhammad Rabi 'ibn Muhammad Ibrahim. *The Ship of Sulaiman*. New York: 1972.

Mulder, Jan Anton Niels. *Monks, Merit and Motivation*. De Kalb: 1973.

Müller, F. Max, trans. *The Upanisads*, Vol. I-II. New York: 1962

Murthy, S. R. N. *Vedic View of the Earth: A Geological Insight into the Vedas*. New Delhi: 199?

Nanda, Swami Jyotir Maya. *Mantra, Kirtana, Yantra and Tantra*. Bombay: 1975.

Nanjieo, Bunjiu. *Japanese Alphabetical Index of Nanjieo's Catalogue of the Buddhist Tripitaka*, eds. Tokiwa, D. and Ogiwara, U. Tokyo: 1930.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

_____ and Müller, F. Max, eds. *Buddhist Texts from Japan*. Oxford: 1881-1884.

Narayan, R. K. *Gods, Demons and Others*. New Delhi: 1964.

Nebesky-Wojkowitz, Réne de. *Oracles and Demons of Tibet: The Cult and Iconography of the Tibetan Protective Deities*. New York: 1977.

Neven, A. *Lamaistic Art*. Brussels: 1975.

Newark Museum Association. *Catalogue of the Tibetan Collection and other Lamist Art*, vols. I-V, Newark, 1950.

_____. *Tibet, A Lost World*. Newark, 1978.

Nilakanta Sastri. *South India Influences in the Far East*. s. l. : 1949

d'Oldenburg, S. 'Materiaux pour l'iconographie bouddhique de Kharakhoto I,' *Materiaux pour l'ethnographie de la Russie*. Tome 2. Sr. Petersburg: 1914, pp. 79-157.

Olschak, Blanche C. and Gesche Thupten Wangyal. *Mystic Art of Ancient Tibet*. Boston and London: 1988.

Olson, E. *Tantric Buddhist Art*. New York: 1974.

Pal, Pratapaditya. *Tibetan Paintings: A Study of Tibetan Thankas Eleventh to Ninteenth Centuries*. Basel: 1984.

Pander, Eugene. *Das Pantheon des Tschangtscha Hutuktu*. Berlin: 1890.

Paothong Thongchua, Piriya Krairiksh and Pishnu Supanimit. *Art in Thailand Since 1932*. Bangkok: 1982.

Parmentier, H. *L'Art khmer primitif*. Paris: 1927.

_____. *L'Art khmer classique*. Paris: 1939.

_____. *L'Art architectural hindou dans l'inde et en Extreme-Orient*. Paris: 1948.

Pathak, S. K. , ed. *The Album of the Tibetan Art Collections*. Patna: 1986.

Paul, R. A. *The Tibetan Symbolic World*. Chicago: 1983.

Pawlin, Alfred. *Dhamma Vision*. Bangkok: 1984.

Paynes, Ernest Alexander. *The Shaktas*. Calcutta: 1933.

Phrombhichitr, P. *Buddhist Art and Architecture*. Bangkok: 1952.

Pirya Krairiksh. *Art in Peninsular Thailand Prior to the 14th Century*. Bangkok: 1980.

_____. *Art Styles in Thailand*. Bangkok: 1977.

_____. *The Sacred Image: Sculpture from Thailand*. Cologne:1979.

_____. *Sculptures from Thailand*. Hong Kong:1982.

Pisit Charoenwongsa and Subhadradis, M. C. *Thailand*. Geneva: 1978.

_____. *Archaeologia Mundi: Thailand*. Geneva: 1978.

Prabhakar Apte, June. *Vastu-Purusha Mandala: Dramatic Architectural and Artistic Study of Vastu-Purusha Mandala in Vastu-Vedic, Agamic and Puranic Tradition with Special Reference to Mayamata*. 1993 Seminar on Mayonic Science & Technology, Madras (unpublished: Library of the American Institute of Indian Studies, Gurgaon, Haryana).

Pratap Sinh Sah Dev, Shri (Maharaja of Nepal). *Purashcaryarnava*, repr. Delhi: n. d.

_____, (Pratapsinha Sahadeva). "Purashcaryarnavah: tantrasastranusari-vidhan-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

paddhati-niupanatmakah," *Encyclopaedia of Tantric Rituals*, repr. New Delhi: 1985.

Quaritch Wales, H. G. *Dvaravati: The Earliest Kingdom of Siam*. London: 1969.

Raghuvira and Lokeshchandra. *A New Tibeto-Mongol Pantheon*, Vol. I-XX. New Delhi: 1961-72.

Raja Bahrin Shah bin Raja Ahmad Shah. *The Terengganu Timber Malay House*. s. l. (Kuala Lumpur): n. d. (1981).

Rajagopalachari, C. *Mahabharata*. Bombay: 1994.

Rajanubhab, Prince Damrong. *Monuments of Buddha in Siam*. Bangkok: 1973.

Rajawaramuni, Phra (Prayuth Payuthto). *Dictionary of Buddhism* (*Brief Dictionary of Buddhist Dharma*). Bangkok: P. S. 2528 (1985).

Rajesh, A. P. *Hindu Tantra Shastra*. New Delhi: n. d.

Rao, T. A. Gopinatha. *Elements of Hindu Iconography*, 4 vols. Madras: 1914-16; repr. Delhi: 1993.

Rapson, E. J. , et al (eds.). *The Cambridge History of India*, 6 Vols. Delhi: 1955.

Rawson, Phillip S. *The Art of Southeast Asia*. New York: 1967.

_____. *The Art of Tantra*. New York: 1978.

_____. *Indian Sculpture*. London: 1966.

_____. *Erotic Art of the East*. New York: 1968.

Ray, N. -R. *Introduction to the Study of Therevada Buddhism in Burma*. Calcutta: 1946.

Reynolds, Valrae. *Tibet, A Lost World*. New York: 1978.

Reynolds, V. , Heller, A. and Gyatso, J. *Catalogue of the Newark Museum Tibetan Collection, III, Sculpture and Painting*. Newark: 1986.

Rhie, Marylin M. and Thurman, Robert A. F. *Wisdom and Compassion: The Sacred Art of Tibet*. New York: 1991.

_____. *From the Land of Snows: Buddhist Art of Tibet*. Amherst, Mass. : 1984.

Roerich, George N. *Tibetan Paintings*. Paris: 1925.

_____. *Blue Annals*. New Delhi: 1988

Rong Syamananda. *A History of Thailand*. Bangkok: 1986.

Rowland, Benjamin. *The Art and Architecture of India: Hindu, Buddhist, Jain*. Baltimore: 1967.

Rubissow, Helen. *Art of Asia*. New York: 1954.

Salmony, M. *Sculpture in Siam*. London: 1925.

Santi Leksukhum. *The Redented Added-Angled Chedis and the Rabbeted-Angled Chedis of the Ayutthaya Period*. Bangkok: B. E. 2529 (1986 A. D.).

Saraswati, S. K. *A Survey of Indian Sculpture*. Calcutta: 1957.

Sartono Kartodirdjo, ed. *700 Tahun Majapahit (1293-1993) Suatu Bunga Rampai*. Surabaya: 1993.

Sargeant, Winthrop. *The Bhagavad Gita*. New York: 1994.

Sarkar, H. *Some Contributions of India to the Ancient Civilization of Indonesia and Malaysia*. Calcutta: 1970.

_____. *Studies in Early Buddhist Architecture of India*. Delhi: 1966.

Sarvananda, Swami, (trans.). *Aitareya Upanishad*. Mylapore: n. d.

_____, (trans.). *Isavasya Upanishad*. Mylapore: n. d.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

_____, (trans.). *Katha Upanishad.* Mylapore: n. d.

_____, (trans.). *Kena Upanishad.* Mylapore: n. d.

_____, (trans.). *Mandukya Upanishad.* Mylapore: n. d.

_____, (trans.). *Prasna Upanishad.* Mylapore: n. d.

_____, (trans.). *Taittiriya Upanishad.* Mylapore: n. d.

Sastri, H. Krishna. *South-Indian Images of Gods and Goddesses.* (reprint) New Delhi:1986.

Saunders, E. Dale. *Mudra: A study of Symbolic Gestures in Japanese Buddhist Sculpture.* New York: 1960.

Schimmel, Annemarie. *The Mystery of Numbers.* New York: 1993.

_____. "Numbers," *The Encyclopedia of Religion.* New York: 1986.

Schlagintweit, Emil. *Le bouddhisme au Tibet.* Paris: 1881.

_____. *Buddhism in Tibet.* sl: nd.

Schroeder, Ulrich von. *Indo-Tibetan Bronzes.* Hong Kong: 1981.

Sharma, B. N. *Iconographic Parallelism in India and Nepal.* Hyderabad: 1975.

Sharma, R. C. *The Splendour of Mathura: Art and Museum.* New Delhi: 1994.

Shastri, Hera Prasad. *A Descriptive Catalogue of Sanskrit Manuscripts in the Government Collection under the care of the Asiatic Society of Bengal.* Calcutta: 1917.

Sherring, M. A. *Banaras, The Sacred City of the Hindus.* (London: 1868) repr. Delhi: 1990.

Shine, Norman. *Numerology: Your Character adn Future Reveald in Numbers.* New York: 1994.

Sierksma, F. *Tibet's Terrifying Deities.* Tokyo: 1966.

Silpa Bhirasri. *Thai Buddhist Art (Architecture).* 5th ed. Bangkok: 1979.

Sinclair, W. B. *Monasteries of Pagan, Burma Research Society, Fiftieth Anniversary Publication, no. 2.* Rangoon: 1960.

Singh, Dharam Vir. *Hinduism, An Introduction.* Jaipur: 1991.

Singh, M. *Himalayan Art.* New York: 1968.

Sivaramamurti, C. *The Art of India.* New York: 1977.

_____. *Le Stupa de Barobudur.* Paris: 1960.

Sjamsuddin, R. , et al (eds.). *East Java: The Glorious Century.* s. l. (The Regional Government of East Java): 1991.

Smith, Ronald Bishop. *Siam; The History of the Thais.* Bethesda: 1966.

Snellgrove, David L. *Indo-Tibetan Buddhism,* vols. I-II. Boston: 1987.

_____. *Four Lamas of Dolpo.* Cambridge: 1967.

_____. *The Image of the Buddha.* Tokyo: 1978.

_____. *Buddhist Himalaya.* Oxford: 1957.

Snodgrass, A. *The Symbolism of the Stupa.* Ithaca: 1985.

_____. *The Matrix and Diamond World Mandalas in Shingon Buddhism, Indo-Asian Literatures* (Vol. 354). New Delhi: 1988.

Sonami, H. and Tachikawa, M. , eds. *Tibetan Mandalas: The Ngor Collection,* 2 vols. Tokyo: 1983.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Southiwan Intralib. *An Outline of the History of Religious Architecture in Thailand*. Bangkok: 1987.

Sri Maha Mariamman Temple Dhevasthanam. *Sri Maha Mariamman Temple Dhevastha-nam, Batu Caves Consecration Ceremony: 1891-1991 Centenary Celebration*. Kuala Lumpur: 1991.

Sta(h)el-Holstein, A. F. von (ed.), *Der Karmapradeipa*. Halle: 1900.

_____. *The Keapcyapaparivarta*. Shanghai: 1926.

Stern, P. *L'Art du Champa et son evolution*. Toulouse: 1942.

_____. *Le Bayon d'Angkor Thom et l'evolution de l'art Khmer*. Paris: 1927.

Stierlin, Henri, ed. *Architecture of the World: India*. Lausanne: n. d.

_____. *Architecture of the World: Islamic India*. Lausanne: n. d.

Sthapaka Miranjana Mahapatra. *Silpararnakosa: A Glossary of Orissan Temple Architecture*. New Delhi: 1994.

Strachan, Paul. *Imperial Pagan: Art and Architecture of Burma*. Honolulu: 1989.

Stratton, Carol and Scott, M. McN. *The Art of Sukhothai: Thailand's Golden Age*. Singapore: 1987.

Strachan, Paul. *Imperial Pagan: Art and Architecture of Burma*. Honolulu: 1990.

Stutley, M. and J. *A Dictionary of Hinduism*. London: 1977.

Suprabhedgama.

Suong Wattanavrangkul. *Outstanding Sculpture of Buddhist and Hindu Gods from Private Collections in Thailand*. Bangkok: B. E. 2518 (1975 A. D.).

Surveyor, Suna K. *Immortal Tales from Kalidasa*. Bombay: 1988.

Special Taskforce for Architectural Pictures of Rattanakosin. *The Architectural Pictures of Rattanakosin*. Bangkok: 1982.

Subhadradis Diskul, M. C. *Art in Thailand: A Brief History*. Bangkok: 1981.

_____ (ed.). *The Art of Srivijaya*. Kuala Lumpur: 1980.

_____. *Sukhothai Art*. Bangkok: B. E. 2252 (1978 A. D.).

Subhaggoi Bhikkhu. *Wat Rajabopitr*. Bangkok: 1964.

Sumet Jumsai. *Seen: Architectural Forms of Northern Siam and Old Siamese Fortifications*. Bangkok: 1970.

_____. *Water: Origin of Ritual, Architecture and Urban Planning*. Bangkok: 1982 (in Thai).

Stutterheim, W. F. *Studies in Indonesia Archeology. Koninklijk Institut voor de taal, Land en Vplkenkunde*. s. l. (Netherlands?): 1956.

Swearer, Donald K. *Wat Haripunjaya*. Missoula: 1934.

Syamananda, Rong. *A History of Thailand*. Bangkok: 1986.

Tagare, Ganesh Vasudeo, (trans.). *The Kurma Purana* (*Ancient Indian Tradition and Mythology*), vols. 20-21). Delhi: 1981.

Tajima, Ryujun. *Les deux grands mandalas et la doctrine de l'esoterisme Shingon*. Tokyo: 1959.

Tambish, S. J. *Buddhism and the Spirit Cults of North-east Thailand*. Cambridge: 1970.

Terwiel, B. J. *Monks and Magic*. Bangkok: 1975.

Tewari, S. P. *Hindu Iconography*. New Delhi: 1979.

Thailand. *Fine Arts Department. Report on the*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Surveys and Excavations of Ancient Monuments in North-Eastern Thailand. Part Two: 1960-1961.

Thapar, D. R. *Icons in Bronze*. London:1961.

Thaw, Aung. *Historical Sites in Burma*. Rangoon: 1972.

Tibet House Museum. *Catalogue of the Inaugural Exhibition*. New Delhi: 1965.

Thapar, D. R. *Icons in Bronze*. London:1961.

Tripathi, G. C. *Letter to: Shri* (Susheel K.) *Mittal*. New Delhi: 2-7-99.

Tucci, Giuseppi. *The Religions of Tibet*. Berkeley: 1980.

_____. *The Theory and Practice of the Mandala*. London: 1961.

_____. *Tibetan Painted Scrolls*. Rome: 1949.

_____. *Indo Tibetica*, vols. I-II. New Delhi: 1988.

_____. *Indo Tibetica*, vols. I-IV. ed. L. Chandra. trans. U. M. Vesci. New Delhi: 1988-89.

_____. *Rati-Lílá: An Interpretation of the Tantric Imagery of the Temples of Nepal*. Geneva:1969

Tulku, T. *Sacred Art of Tibet*. Berkeley: 1972.

Twain, Mark. *Following the Equator*. Hartford: 1898.

Tyagishananda, Swami, (trans.). *Sveyasvatara Upanishad*. Mylapore: n. d.

Vajrianana Varoros, Prince, Supreme Patriarch. *Autobiography; The Life of Prince-Patriarch Vajrianana of Siam*. Athens, Ohio: 1979.

Van Beek, Steve and Tettoni, Luca Invernizzi. *The Arts of Thailand*. Hong Kong: 1986.

Varaha Purana.

Vatsyayan, Kapila. *Buddhist Iconography*. New Delhi: 1989.

_____. *The Square and the Circle of the Indian Arts*. New Delhi: 1983.

Vayu Purana.

Vella, Walter F. Chaiyo. *King Vajiravudh and the Development of Thai Nationalism*. Honolulu: 1978.

Vettam Mani. *Puranic Encyclopaedia*. Delhi: 1975.

Vira, Raghu and Chandra, Lokesh, eds. *A New Tibeto-Mongolian Pantheon*. New Delhi: 1961.

Viraphol, Sarasin. *Tribute and Profit*. Harvard: 1977.

Viriyahbhun, P. *Muang Boran: A City with a Cultural Conscience*. Bangkok: n. d.

Visser, M. W. de. *Ancient Buddhism in Japan*. London: 1935.

Vogel, J. P. *The Influences of Indian Art*. s. l. : 1925.

von Schroeder, Ulrich. *Indo-Tibetan Bronzes*. Hong Kong: 1981.

Waddell, L. A. *The Buddhism of Tibet or Lamaism*. Cambridge: 1958.

Wales, H. G. Q. Dvaravati; *The Earliest Kingdom of Siam*. London: 1969.

Wattanavrangkul, Snong. *Outstanding Sculptures of Bhudhist (sic) and Hindu Gods From Private Collections in Thailand*. s. l. (Bangkok?): 1975.

Watts, Michael. *Thailand*. Oxford: 1986

Waugh, Alec. *Bangkok; The Story of a City*. Boston: 1971.

Wayman, A. *The Buddhist Tantras*. New York: 1973.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bibliography (Continued)

Wells, Kenneth E. *Thai Buddhism: Its Rites and Activities*. Bangkok: 1975.

Westcott, W. Wynn. *Numbers, Their Occult Powers and Mystic Virtues*. Bombay: 1994.

White, Joyce. *Discovery of a Lost Bronze Age: Ban Chiang*. University of Pennsylvania and the Smithsonian Institution: 1982.

Whitfield, Roderick. *The Art of Central Asia*, Vols I-III. Tokyo: 1982, 1983, 1985.

Whitney, W. D. (trans.). *Atharva-Veda Samhita*. repr. New Delhi: 1962.

Wickert, Jurgen D. *Borobudur*. Jakarta: 1993.

Wilkins, W. J. *Hindu Mythology, Vedic and Puranic*. New Delhi: 1991.

Williams, C. A. S. *Outlines of Chinese Symbolism and Art Motives*. New York: 1976.

Wilson, G. et al. *Geometry for Architects*. Champaigne: 1962.

Wiyada Thongmitr. *Khrua In Khong's Westernized School of Thai Painting*. Bangkok: 1979.

Wood, William A. R. *A History of Siam*. Bangkok: 1959.

Wyatt, David K. *Thailand: a Short History*. New Haven: 1984.

Yutang, Lin. *The Wisdom of India*. New Delhi; 1955.

Zimmer, H. *Artistic Form and Yoga in the Sacred Images of India*. Princeton: 1984.

_____, ed. by J. Campbell. *The Art of Indian Asia*, 2 vols. New York:1955.

Zwalf, W. *Heritage of Tibet*. London: 1981.

_____, ed. *Buddhism, Art and Faith*. London: 1985.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Appendix A

Miscellaneous Related Plans, Elevations, and Sections

Due to the scope of this study the following plans, elevations and sections are included here so that they may further elucidate the parameters of this work's concerns. It must be restated that the plans, elevations and sections were prepared from the sources noted and are not purported to be to perfect or exact scale. However, the proportions and layout of the various elements follow the monuments' plans, elevations and sections. As with the previous Plates, these drawings were computer generated using PageMaker 6.0 ᶜ.

Plate 90: *Dharmarajaratha*, Mahaballipuram, India; *Preah Thkol*, Angkor, Kambuja
Plate 91: *Thupurama Dagoba*, Anuradhapura, Sri Lanka
Plate 92: *Ruvanveliseya Dagoba*, Anuradhapura, Sri Lanka
Plate 93: *Maha-Vihara Dharmapala*, Paharpar, India
Plate 94: *Parvati Temple*, Nachna, India
Plate 95: *Shiva Temple*, Bhumara, India
Plate 96: *Vijayalaya-colisvara Temple*, Narittamalai, India
Plate 97: *Shiva Temple*, Masaon, India
Plate 98: *Shiva Temple*, Chandrehe, India
Plate 99: *Maha-Lingaraja Mandir*, Bhuvaneshvar, India
Plate 100: *Kandariya Mahadeo*, Khajuraho, India
Plate 101: *Kandariya Mahadeo*, Khajuraho, India
Plate 102: *Temple of the Sixty-four Yoginis*, Bheraghat, India
Plate 103: *Tomb of Humayun*, Delhi, India
Plate 104: One Room, Three Alcove Temple, Java
Plate 105: *Chendebji Stupa*, Bhutan
Plate 106: *Chendebji Stupa*, Bhutan
Plate 107: *Tibetan Chorten*
Plate 108: *Chandi Kalasan*, Java
Plate 109: *Loro Jonggrang, Chandi Perwara*, Java
Plate 110: *Loro Jonggrang, Chandi Brahmá*, Java
Plate 111: *Chandi Sewu, Prambanan*, Java
Plate 112: *Chandi Sari*, Prambanan, Java
Plate 113: *Chandi Sari*, Prambanan, Java
Plate 114: *Chandi Plaosan Lor*, Prambanan, Java
Plate 115: *Chandi Plaosan Lor*, Prambanan, Java
Plate 116: *Chandi Kidal*, Malang, Java *Chandi*
Plate 117: *Djago*, Malang, Java
Plate 118: *Preah Ko*, Roluos, Kambuja
Plate 119: Plan , *Roluos* (Hariharalaya), Kambuja
Plate 120: *Ta Keo*, Angkor, Kambuja

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Miscellaneous Related Plans, Elevations and Sections (Concluded)

Plate 121: *Ta Keo* Mount, Angkor, Kambuja
Plate 122: *Wat Ek*, Battambang, Kambuja
Plate 123: *Banteay Srei*, Angkor, Kambuja
Plate 124: *Angkor Wat*, Angkor, Kambuja
Plate 125: *Neak Pean*, Angkor, Kambuja
Plate 126: Plan. Angkor, Kambuja
Plate 127: *Bayon*, Angkor, Kambuja
Plate 128: Cross axial & Axial Plans, Myanmar
Plate 129: *Ananda*, (Pagan, Myanmar
Plate 130: *Ananda*, Pagan, Myanmar
Plate 131: *Ananda*, Pagan, Myanmar
Plate 132: *That-Byin-Nyu*, Pagan, Myanmar
Plate 133: *That-Byin-Nyu*, Pagan, Myanmar
Plate 134: *Dhamma-Yan-Gyi*, Pagan, Myanmar
Plate 135: *Gawdaw-Palin*, Pagan, Myanmar
Plate 136: *Gawdaw-Palin*, Pagan, Myanmar
Plate 137: *Dhamma-Yazika*, Pagan, Myanmar
Plate 138: *Dhamma-Yazika*, Pagan, Myanmar.
Plate 139: *Mingala-zeidi*, Pagan, Myanmar
Plate 140: *Somin-Gyi Ok-Kyaung*, Pagan, Myanmar
Plate 141: *Pentagonal Temple*, Pagan, Myanmar
Plate 142: *Wat Kaew*, Chaiya, Thailand
Plate 143: *Chedi Si Liem*, Chiang Mai, Thailand
Plate 144: *Wat Phra Phai Luang*, Sukhothai, Thailand
Plate 145: *Wat Mahathat*, Sukhothai, Thailand
Plate 146: *Chedis*, Thailand
Plate 147: *Prang, Wat Phra Ram*, Ayutthaya, Thailand
Plate 148: *Mahabodhi*, Pagan, Myanmar
Plate 149: *Chedi Chet Yot*, Chiang Mai, Thailand
Plate 150: *Chedi Si Suriyothai, Wat Suan Luang Sop Sawan*, Ayutthaya, Thailand
Plate 151: Elevation, subsidiary stucco chedi, *Wat Khian*, Ayutthaya
Plate 152: *Wat Phra Kaew*, Bangkok, Thailand
Plate 153: *Wat Suthat*, Bangkok, Thailand
Plate 154: Typical *Ubosots/Viharn* Plans, Thailand
Plate 155: Plan, *Wat Arun Rajtharam*, Thonburi, Thailand
Plate 156: *Prang, Wat Arun Rajtharam*, Thonburi, Thailand
Plate 157: *Wat Benchamabophit*, Bangkok, Thailand
Plate 158: *Lohaprasad, Wat Ratchanatdaram*, Bangkok, Thailand
Plate 159: *Temple A-1*, Mi Son, Vietnam
Plate 160: *Temple A-1*, Mi Son, Vietnam
Plate 161: *Po Nagar*, Nha Trang, Vietnam
Plate 162: *Masjid Tarenquerah, Malacca*, Malaysia
Plate 163: *Masjid Kampung Laut*, Terengganu, Malaysia
Plate 164: *Masjid Kampung Hulu, Malacca*, Malaysia
Plate 165: *Rumah Tiang Enam* (*Rumah Ibu* or *Rumah Bujang*), Malaysia
Plate 166: *Malacca*-style House, Malaysia

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Comments on Plans, Elevations and Sections

Plate 90 -- Cross-Axial Plan: *Dharmarajaratha*, Mahaballipurnam (adapted plan); *Preah Thkol* Central Shrine, Angkor, p. 410. Although the *Dharmarajaratha* is a subtractive, monolithic temple and the actual plan indicates the vagaries of working with solid stone--i.e., the pillars and piers are somewhat off strict alignment--nonetheless the basic plan is cross-axial as indicated with the grey area. The simple, nine pada plan with porch indicates the Hindu predilection for the square. The central shrine of the *Preah Thkol* , Angkor, indicates a variation on the cross-axial approach in which the plan of the sanctuary is in the form of a Greek cross and porches, producing rather long arms extending from a square.

Plate 91 -- Elevation, *Thuparama*, Anuradhapura, 3rd C. BCE, p. 411. The present elevation of the *Thuparama* is a rather modern adaptation having been completed in the last century. The format is rather traditional in the fact that the *anda* is virtually a hemisphere. The tripartite basis and the *socle* indicate the elaboration that had become popular. In addition, this *stupa* is considerably taller than the original, the latter of which would have rested within a roofed structure (*vatadage*) not nearly as tall as the present structure.

Plate 92 -- Elevation, *Ruvanveliseya Dagoba*, Anuradhapura, 2nd - 1st C. BCE, p. 412. The *Ruvanveliseya Dagoba* indicates the debt that the Sinhalese builders had to India, particularly the *Stupa I* at Sanchi. The hemispheric *anda* ('paddy heap') dominates the whole. The *harmika* too is somewhat larger in proportion to the whole, another hallmark of the Sri Lanka *dagoba*. The totality of the elevation is squatter, more substantial than later structures.

Plate 93 -- Cross-Axial Plan: *Temple of Maha-Vihara Dharmapala*, Paharpar, c. 710 CE, p. 413. Although one of the earlier Buddhist ecclesiastical structures the *Temple of Maha-Vihara Dharmapala* indicates a strong influence of the mother faith in its strong axiality as well as its debt to the square. The inner sanctuaries exhibit a Greek cross plan with extensions and variations, producing this overall stepped design. The emphasis placed on the orientation towards the cardinal points of the compass also indicates a reliance on forms that appear to be more cultural imperatives than particular religious dogma. As is seen it fits comfortably within a circular *Manduka Mandala*.

Plate 94 -- Axial Plan, *Parvati Temple*, Nachna, India, c. 450-499 CE, p. 414. An early Hindu temple, the *Parvati Temple* exhibits a square *garbha-griha* set within a square cella. The entrance to the cella is elaborated upon in the form of a narrow extended vestibule which has the effect of physically placing the sanctuary at a distance from the portal and emphasizes the cave (*gu*). It acts more as a passageway than a *mandapa*.

Plate 95 -- Axial Plan, *Shiva Temple*, Bhumara, India, c. 475-499 CE, p. 415. The cross-axial nature of the sanctuary is juxtaposed to the extended plinth upon which it sits. This serves much the same purpose as the extended porch of the *Parvati Temple*, Nachna, but without the benefit of an enclosed space. The elevated plinth also serves to elevate the temple to a place of visual prominence and establish the Mt. Meru/ Kailasha ideal.

Plate 96 -- Axial Plan, *Vijayalaya-colisvara Temple*, Narittamalai, c. 850 CE, p. 416. A Hindu temple which incorporates both the square and the circle in its design. In the Vedic period there were frequently two separate altar sites, one circular representing the terrestrial and the other square representing the celestial. The sacred fire was transported from the circular to the square altar area. In the instance of the *Vijayalayacolisvara Temple*, however, this does not apply. The *garbha-griha* is bounded by four piers inferring a square around the circle. It would appear that here the term *garbha-griha* is visibly manifested in the circular form.

Plate 97 -- Axial Plan, *Shiva Temple*, Masaon, c. 950 CE, p. 417. The circular temple plan in India is unusual, but not unheard of. It is of interest to note that their appearance comes within the first millennium of the Common Era, after a time when sculptural representations had indicated a strong European Classical influence. In Classical Greece the circular temple was an extreme rarity, not so during the Roman Classical period. Could this have in some way influenced the construction of circular temples? Obviously based upon the circular *Manduka Mandala*,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the cella is circled by sixteen recesses--four are covered by the extension of the porch.

Plate 98 -- Axial Plan, *Shiva Temple*, Chandrehe, c. 950 CE, p. 418. Similar to **Plate 97** is an extension of **Plate 96**. In addition, it also appears to be based upon the circular *Manduka Mandala*. The twelve deep, wide niches--four of which are covered by the wide vestibule--indicate an obvious preference for the circle during this period. The vestibule porch here is considerably more prominent than that of **Plate 97**.

Plate 99 -- Elevation and plan, *Maha-Lingaraja Mandir*, Bhuvaneshvar, c. 1000 CE, p. 419. The later development of the Hindu temple from the simple *garbha-griha* proceeded to one with a *mandapa*. Later this standard was elaborated upon indicating the extent of this "baroque" development particularly exemplified in the *Maha-Lingaraja Mandir*. What this produces, *en plan*, is a design which emphasizes the length--a long single axis. In elevation, this long axis translates into an impression of emphasized horizontality.

Plate 100 -- Axial plan, *Kandariya Mahadeo*, Khajuraho, 11 C. CE, p. 420. The temples of Khajuraho are unique, not only in their sculptural ensemble, but also in their plan. Here indicating an architectural layering in which the basic elements are cloaked with further walls creating a unified ensemble (See: **Plates 12 & 25**).

Plate 101 -- Elevation (proportional),[1] *Kandariya Mahadeo*, Khajuraho, 11 C. CE, p. 421.

Plate 102 -- Plan, *Temple of the Sixty-four Yoginis*, Bheraghat, Madhya Pradesh, India, 12 C. CE, p. 422. The outer enclosure is circular as befitting a temple dedicated to feminine deities. The central shrine, however, conforms to the standard square. It is to be noted that the placement and orientation of the temple is not central nor to the cardinal points of the compass.

Plate 103 -- Cross Axial Plan, *Tomb of Humayun*, Delhi, 1565 C, p. 423. Even with the advent of the Mughul Empire, there seems to have been a predilection for the square. Not only are the surrounding gardens based upon this geometric form, but also the mausoleum proper is rooted in the square. Muslim architecture is not as wedded to the square as was Hindu India. Early Muslim burial towers tended to be octagonal or in rare cases circular, *en plan* (See: **Figure 216**).

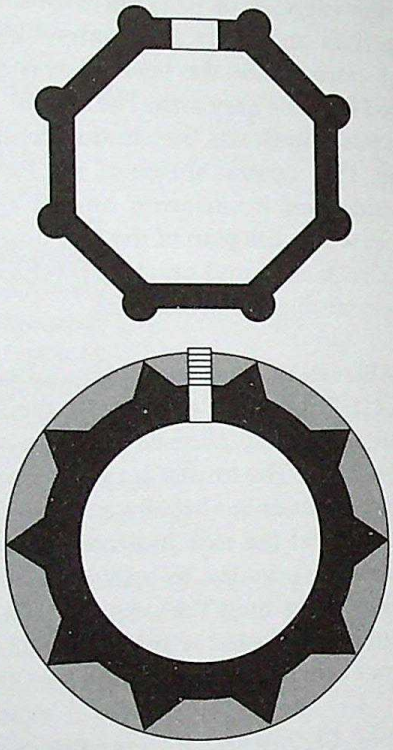


Figure 216: after hexagonal *Tomb Tower*, Demavand, Iran (upper), and the *Gunbad-i-Kabus*, Gurgan, Iran (lower).

Plate 104 -- Axial Plan, *One Room, Three Alcove Temple* (typical), Java, 8th-9th C. CE, p. 424. An example of the simplicity that the early smaller temple forms in Java had achieve and which were a standard. The extensions rather than expanding the cella were deep set niches (alcoves) which contained images related to the central deity.

Plate 105 -- Cross Axial Plan, *Chendebji Stupa*, Bhutan (central), a. 8th C. CE, p. 425. The *Chendebji Stupa* indicates what is essentially a *pancharatha* plan. The variation is to be seen in the addition of the plinths flanking the stairs. It must be assumed that the model for this stupa comes from India or possibly Nepal's *Shri Swayambhunath Mahachaitya* or *Bodhanatha Stupa* of Kathmandu which would place the date of the *Chendebji Stupa* somewhat later. Its plan indicates a relationship to Java's *Borobudur*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 106 – Elevation, *Chendebji Stupa*, Bhutan (central), a. 8th C. CE, p. 426. The elevation of *Chendebji Stupa* is closer in character and proportion to *Borobudur* than either *Shri Swayambhunath Mahachaitya* or *Bodhanatha Stupa*.

Plate 107 – Elevation, *Tibetan Chorten* (proportional), Tibet, 18th C. CE, p. 427. The divisions of the Tibetan *chorten* are essentially similar to the Indian-Sri Lankan *stupa*, although the forms differ somewhat.

Plate 108 – Cross Axial Plan, *Chandi Kalasan*, Java, a. 778 CE, p. 428. The *Chandi Kalasan* indicates the complexity that the plan development had achieved in Java during this period. Gone is the simple plan and replaced with indentions, niches, pilasters to the point that the basic Greek cross plan is nearly obliterated in the elaboration. This elaboration is such as to make the square appear rotated 45^0. When this is done, the outer perimeter of the grid shown as: – – – – –, encompasses the plan of the temple with its various extensions.

Plate 109 – Elevation (proportional view), *Chandi Perwara, Loro Jonggrang*, Prambanan, Java, c. 856 CE, p. 429. PA (pp. 181-226) deals rather extensively with the various proportions and ratios that are found within the temples of Java. In this plate a somewhat different approach is shown. The **A** square indicates the width of the base and from the base. The **B** square indicates the width of the temple proper and from the its base upon the plinth. The **C** square indicates the width of the base of the sanctuary and from the base of the whole. The *Chandi Perwara* of the *Loro Jonggrang* it is to be noted are somewhat taller in proportion to their width.

Plate 110 – Elevation (proportional view), *Chandi Brahmá, Loro Jonggrang*, Prambanan, Java, c. 856 CE, p 430. The *Chandi Brahmá* is virtually identical in proportion to the *Chandi Wisnu*. Both are smaller, by approximately a third, than the central shrine, the *Chandi Siwa*.

Plate 111 – Elevation (proportional view), *Chandi Perwara* (first court), *Chandi Sewu*, Prambanan, Java, a. 792, p. 431. The **A** square indicates the width of the base and from the base. The **B** square indicates the width of the temple proper and from the its base upon the plinth. The **C** square indicates the width of the base of the sanctuary and from the base of the whole. The *Chandi Perwara* of the *Chandi Sewu* are somewhat squatter in proportion to their width. Certainly, their proportion is not as proportionally tall as those of the *Loro Jonggrang* . The obvious difference is in the proportion of the upper *stupika* which here is more prominent.

Plate 112 – Elevation (proportional view), *Chandi Sari*, Java, 9th C. CE, p. 432. *Chandi Sari*'s frontal elevation resembles a palatial residence rather than a typical temple form. Indeed a number of scholars have viewed this structure as part temple and part residence for monks.

Plate 113 – Elevation (proportional view), *Chandi Sari*, Java, 9th C. CE, p. 433. The "Standard" that has been discussed in the section on *Chandi Sari* and **Plate 36** (See: pp. 156-159) is here shown to apply to the elevation as well.

Plate 114 – Elevation (proportional view), *Chandi Plaosan Lor*, Java, c. 825-850 CE, p. 434. Similar in form to the *Chandi Sari*, the *Chandi Plaosan Lor* appears less to resemble a palatial residence due to the rather elaborate upper structure above the roof line. It is clearly marked as a temple. The temple ensemble of *Chandi Plaosan Lor* is highly developed, containing 174 small buildings (*Chandi Perwara*?), as well as 174 smaller stupas and shrines.

Plate 115 – Elevation (proportional view), *indicating the 30° standard, Chandi Plaosan Lor*, Java, c. 825-850 CE, p. 435. The "Standard" that has been discussed in the section on *Chandi Sari* and **Plate 36** (See: pp. 156-159) is here shown to apply to the elevation as well.

Plate 116 – Elevation (proportional view), *Chandi Kidal*, Java, c. 1250 CE, p. 436. The **A** square indicates the width of the base and from the base. The **B** square indicates the width of the temple proper and from the its base upon the plinth. The **C** square indicates the width of the base of the sanctuary and from the base of the whole. The *Chandi Kidal* emphasizes the vertical. This verticality becomes a stylistic preference in eastern Java.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 117 -- Elevation (probable), *Chandi Djago*, Java, 1270-1280 CE, p. 437. This appearance of height is pushed to greater limits in *Chandi Djago*. The **A** square indicates the width of the base of the temple proper and from the pedestal base of the whole. The **B** indicates the inclosing of the base pedestal within a isosceles triangle with a height two-thirds of its base. The **C** indicates the whole enclosed within a isosceles triangle with the height a third more than width of its base.

Plate 118 -- Plan, Shrine, *Preah Ko*, Roluos, a. 879 CE, p. 438. The plans of the eastern shrines of *Preah Ko* at Roluos, are essentially square with an entrance porch on the east and duplicate shallow niches on the other three façades--not unlike the smaller temples of Java.

Plate 119 -- Plan (indicating major monuments), *Roluos* (Hariharalaya), p. 439.

Plate 120 -- a.: Elevation (proportional) & b.: ensemble plan, *Ta Keo*, Angkor, c. 975-1050 CE, p. 440. The area "a" indicates the proportional layout of the mount ensemble and the three triangles. One, an equilateral triangle (**A**), in which the height is less than the width of the base of the whole, but includes the quincunx shrines on the top terrace, and the base dimension of which falls just inside the outer girdle (gallery) wall (See: A^1 at the bottom left [**b.**]). It is to me noted that the four upper terraces, plus the shrines are contained within this triangle giving it a greater appearance of height than other temple mounts. The other triangle, an isosceles (**B**), includes the whole (B^1). A second equilateral triangle (**C**) which encloses the central shrine possesses a base, the dimension of which falls, *en plan*, just inside the second terrace's gallery (C^1). The bottom portion (**b.**) indicates the layout of the ensemble including the subsidiary buildings and the areas of the triangles noted as: A^1, B^1 & C^1.

Plate 121 -- Plan, *Ta Keo* Mount Ensemble, Angkor, p. 441. The plan of the mount ensemble is, in its concept, rather traditional. The uniqueness of it to the *Ta Keo* is in the elevation of the individual units upon their individual plinths and the close proximity of one to the other. The base of the central shrine's extensions move half way between the corresponding cross axes of the subsidiary shrines. En plan, the impression is of a crowded grouping, however the elevation emphasizes the height.

Plate 122 -- Plan, *Wat Ek* (Central Shrine), Battambang, 12th C. CE, p. 442. A *prasat*-style temple in a similar style to *Prasat Hin Phimai*. Here the porches extend somewhat beyond the cella and form a Greek cross. The assembly area (mandapa) is also in a modified cruciform, "squarish," with and extended east porch. The prasat form was utilized frequently, but mot as the main sanctuary of temple mounts.

Plate 123 -- Elevation, *Banteay Srei*, Southern Shrine, Angkor, 10th C. CE, p. 443. Similar in form to the *Chandi Perwaras* of *Loro Jonggrang* and *Chandi Sewu*, the tower shrines of the Khmers make exceptional use of diminishing perspective as one storey raises above the next--creating an optical effect of greater height than there is in actuality. The **A** square indicates the width of the base and from the base. The **B** square indicates the width of the base and from the base of the whole.

Plate 124 -- Axial-Plan, Northwest Library, *Angkor Wat*, Angkor, 12th C. CE, p. 444. The two "libraries" flanking the western processional way and within the galleried enclosure are structures of rare simplicity in Angkor, and of great elegance. Strictly rectangular, oriented to the cardinal points of the compass and set upon a high, multi-leveled plinth the Libraries exhibit the singularity of Khmer design. Six windows to the north and six to the south are mirrored by the twelve interior piers. To the east and the west are extended porches supported by four piers each.

Plate 125 -- Cross-Axial Plan, *Neak Pean*, Angkor, a. 1175 CE, p 445. The areas surrounding the tank and the temple ensemble indicates a female swastika as the basic design element. Additionally, it resembles the "Svastika Village (9.43-45)" plan found in the *Mayamatam*. (BD) Within the whole a cross axiality exists to unite the total ensemble. (See: **Figure 217**)

Plate 126 -- Plan (indicating major monuments), *Angkor*, p. 446.

Plate 127 -- Elevation (reconstruction of the *shikharas* of the central shrine), *Bayon*, Angkor, c. 1200 CE, p.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

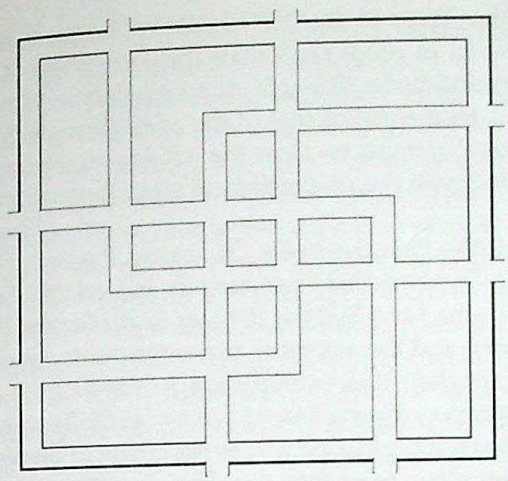


Figure 217: Svastika Village Plan

447. The proportions of the *shikhara* is considerably squatter than those of earlier and later temples (See: **Plate 103**). However, the main point of interest is the inclusion of the "*Buddha*" heads at the cardinal points of the compass which are reputed to be in the likenesses of Jayavarman VII.

Plate 128 -- Plan, Pyu Shrines: a. *Lemyethna*, Shri Kshetra (9th C CE); b. *Bebe* Temple, Shri Kshetra (9th C CE), p. 448. These early Burman temples indicate a strict cross-axiality and a deep debt to Indian prototypes.

Plate 129 -- Elevation (proportional), *Ananda*, Pagan, a. 1105 CE, p. 449. The elevation of the *Ananda* indicates another deviation from the norm in temple architecture of Pagan--i.e., it is strongly horizontal. The major mold elements of the triple tiered roof coupled with the extension of the porch/vestibules is only slightly mitigated by the elegant *shikhara/stupa*.

Plate 130 -- Elevation (proportional), *Ananda*, Pagan, a. 1105 CE, p. 450. In dealing with the elevation of the *Ananda* five triangles are superimposed upon the structure: **Triangle A** is inclusive of the whole structure; **Triangle B** indicates the width of the whole (vestibule to vestibule) plus height; **Triangle C** is based on the outer edge of the three tiered roof parapets; **Triangle D** is based on the width of the central block plus the height of the whole; and **Triangle** ------ is an equilateral triangle. The temple block, minus the extended vestibules is close to an equilateral triangle (See: **Triangles D** & -- -- --). However, of greater interest is the **Triangle B** (the width of the whole, plus the height) and **Triangle C** (formed by the outer edge of the three tiered roof parapets, the height being one-third the length of the base) possess the same base measurements.

Plate 131 -- Section (proportional), *Ananda*, Pagan, a. 1105 CE, p. 451. The section shows the mass of masonry of the center section needed to support the soaring *shikhara* (*stupa*). The narrow passageways, excluding the *pradakshinapathas*, "cut" into the '"solid" central core' do not effect the structure to any great extent. The same approach was taken in the *Dhamma-Yan-Gyi*.

Plate 132 -- Elevation (proportional), *That-Byin-Nyu*, Pagan, b. 1165 CE, p. 452. The proportions of the *That-Byin-Nyu* tends to emphasize height more than in previous temples. **Triangle A**, an equilateral triangle includes the whole. Here the height of the whole is shown to be approximately five-and-a-half times the height of the base. **Triangle B**, an isosceles triangle, includes the upper two terraces and the sanctuary block. It is to be noted that the proportions of the *That-Byin-Nyu* is considerably taller than that of the *Ananda*.

Plate 133 -- Section, *That-Byin-Nyu*, Pagan, b. 1165 CE, p. 453. As with the *Ananda*, the section shows the mass of masonry of the center section needed to support the soaring sanctuary of the *That-Byin-Nyu*. The *pradakshinapathas* are of minor concern in the supporting mass of the core-base.

Plate 134 -- Elevation (proportional), *Dhamma-Yan-Gyi*, Pagan, b. 1165 CE, p. 454. The elevation of *Dhamma-Yan-Gyi* appears squatter and certainly more massive than that of the *That-Byin-Nyu*. **Triangle A**, an isosceles triangle, includes the whole structure. **Triangle B** follows the line of the *stupikas* of the receding, terraced roof-line and **Triangle C** follows the receding roof-line. Triangle ------ is an equilateral triangle which utilizes the width of the main block as its base width. It is of note that the apex of both **Triangle A** and the equilateral triangle meet at the same location. Proportionally, the *Dhamma-Yan-Gyi* is taller than the *Ananda*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 135 -- Elevation (proposed),[2] *Gawdaw-Palin*, Pagan, 13th C, p. 455. The elevation of the *Gawdaw-Palin* indicates the emphasis on the vertical. The emphasis is more than other Pagan temples. **Triangle A**, an equilateral triangle includes the whole. **Triangle B**, an isosceles triangle, includes the upper terrace and the sanctuary block. It is to be noted that like the *That-Byin-Nyu* the proportions of the *Gawdaw-Palin* is taller than that of the *Ananda*. Here, the height of the whole is found to be four times that of the base. Additionally, the sanctuary block is also proportionally taller than the *That-Byin-Nyu*, making this temple appear more vertical and/or taller than the *Ananda* and the *That-byin-nyu*.

Plate 136 -- Section (proposed), *Gawdaw-Palin*, Pagan, 13th C, p. 456. As with the *Ananda* and the *That-Byin-Nyu* the section shows the mass of masonry of the center section needed to support the soaring sanctuary of the *Gawdaw-Palin*. Unlike the *Ananda* and the *Dhamma-Yan-Gyi*, the *Gawdaw-Palin* as the *That-Byin-Nyu* fill virtually the whole of the internal space of the central block with brick in which to support the substantial sanctuary structure. This approach, technically is not dissimilar to the process of the construction of *Borobudur*.

Plate 137 -- Plan, Subsidiary Shrine *Dhamma-Yazika*, p. 457. The subsidiary shrines of the *Dhamma-Yazika* are interesting for a number of reasons. First the square predominates in their make up--the sanctuary block is unmistakably square. A *mandala* grid of sixty-four *pada* appears to be applicable here. Second, the (north), (west) and (south) porches and façades are equal. The eastern extension harkens back to earlier proportions--e.g., the *Nan-Hpaya*--however the whole recalls later designs--e.g., *Paya-Thon-Zu*.

Plate 138 -- Plan (ensemble), *Dhamma-Yazika*, p. 458. The five sided design of *Dhamma-Yazika* is tripled in the layout of the encircling wall with gates corresponding to the five *gandhakuti*. It is also of interest that the "diameter" of the girdle wall is nearly three times larger that the diameter of the *stupa* base.

Plate 139 -- Elevation (proposed), *Mingala-zeidi*, Pagan, 1274-1284 CE, p. 459. The *zeidi* of Pagan are frequently called "massive." Their proportions are certainly not as tall as those of the Thai kingdoms, however, they are taller, in proportion than the early *stupa* of Sri Lanka and India. **Triangle A**, an equilateral triangle with a base equal to that of the *zeidi*. **Triangle B**, an isosceles triangle, encloses the whole and is more in keeping with the proportions of other Burman *zeidi*.

Plate 140 -- Plan, *Somin-Gyi Ok-Kyaung*, Pagan, a. 1204, p. 460. *Theravada Buddhism* revolves around the "Triple Jewel"--the Lord *Buddha*, the law (Ind.: *dharma*; Pali: *dhamma*) and the assembly of monks (Indic: *sangkha*; Pali: *sangha*). It is exemplified in the form of the monastery or *kyaung* named *Somin-Gyi Ok-Kyaung*. To the Burman the *kyaung* was as important as the *wat* is to their close neighbors, the Thai. For it was in the *kyaung* that the monks were trained and lived for various periods of time, including their adult life. To be a monk was an act of high merit to be undertaken by the male population at one point in their lives.

Much of the domestic architecture, palaces and minor ecclesiastical buildings of Pagan were constructed of perishable wood. Only major religious temples and shrines were constructed of more permanent brick and stone. An exception appears to be the *Somin-Gyi Ok-Kyaung* and other monasteries in and around Pagan which used brick as its construction medium. There are two terms referring to monasteries: *ok-kyaung* alludes to a monastery constructed of brick and *kala-kyaung* refers to a monastery of Indian (design) origin. The latter term becomes somewhat important since those employed in the complex brick construction of many of Pagans architectural works were from India.

En plan, the *Somin-Gyi Ok-Kyaung* is closely related to the monastery caves of India (See: **Plate 17**).[3] Its physical core is a central area (court). The *gu*-like sanctuary with a single entrance, situated in the west and oriented to the east is surrounded by a *pradakshinapatha*. The *garbha-griha* is crowned by a *shikhara*. Opposite, there is a well defined vestibule-hall reminiscent of a number of Pagan temples. On either side of the *garbha-griha* are four rooms--two to the north and two to the south, on the court there are four more cells--two facing north and two facing south, and finally, on either side of the vestibule-hall is another room(s). The *kyaung* is virtually symmetrical, divided on the east-west axis--an axial plan of balance in accordance with the function.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Indeed, one could aptly apply the modern dictum "form follows function" to this pattern.

The function of this monastery, other than to house and assembly of monks and to minister to their physical and spiritual lives is not too dissimilar from a number of western (European) ecclesiastical structures. The vestibule hall, as the nave of a Christian church or the *peristyle* of an Egyptian temple, would have been open to the general public with few restrictions. The central court may be likened to the choir of a cathedral or the *hypostyle* hall of the Egyptian temple in that it had rather a specific and often restricted use and was not generally open to the public-at-large. Finally, the sanctuary, as the sanctuary in a Christian church or that of an Egyptian temple would have been even more restricted, generally accessible to the priestly caste rather than to the laity.

The size of the total is, by comparison, small, particularly when one takes into account the number of *Theravada Buddhists* monasteries in Burma (*kyaung)* and/or Thailand (*wat*). Normally, there are certain structures common to all, but the form varies greatly. Often, monasteries are divided into two distinct sections--one being the residence area of the monks and the other being open to the public generally holding a shrine--the size and location of the structures may be rather happenstance. Somin-Gyi Ok-Kyaung uniqueness is to be found in its compact size and the manner in which it rests upon a podium, a small Mount Meru as though the *kyaung* was a venerated structure in and of itself.

The whole sits upon a low hill, elevating it and, thereby, associating it further with Mount Meru. The *kyaung* of Pagan differ in a number of ways from the wats of the Thai Kingdoms, particularly those after the Sukhothai period. Primarily in the fact that the Pagan structures tend to be more compact, the cells arranged around a central court, and with a sanctuary/shrine incorporated; while the Thai *wat* is larger, also consisting of a two major areas: the domicile area for the monks and the more elaborate sanctuary/shrine area. Additionally, the residence area of Pagan tended to be constructed of more permanent material than the Thai.

Plate 141 -- Plan indicating *Manduka Mandala, Pentagonal Temple*, Pagan, p. 461. The lack of symmetry in the Pentagonal Temple produces some problems. It is obvious that the builders of Pagan were versed in geometry and surveying. Why the obvious anomaly in this temple? One answer may be that the Pentagonal Temple was not a royal commission--its size and surroundings would indicate this. There are numerous small shrines dotted around Pagan and its environs that would indicate that they were built by the wealthy as acts of merit. Quite possibly in the case of this temple, the builder was not as thoroughly versed in the intricacies of geometry and surveying, as the "masters" employed in the construction of the royal edifices. Nonetheless, when a circular *Manduka Mandala* is applied to this design, certain parallels appear.

Plate 142 -- Cross-Axial Plan (reconstructed), *Wat Kaew*, Chaiya, 8 C. CE, p. 462. The plan of the *Wat Kaew,* built during the Srivijayan period, indicates a strong influence not only from Java, but obviously from *Chandi Kalasan*, Java (See: **Plate 108**). The obvious differences is in the long, narrow passage leading from the exterior. What the upper portions resembles is difficult to assess due to the advance state of ruin.

Plate 143 -- Elevation (reconstructed), *Chedi Si Liem*, Chiang Mai, c. 1300 CE, p. 463. A Lana example which indicates a strong debt to *Chedi Wat Kukut* (aka *Chedi Wat Chamatewi*). The four, base shrines at the cardinal points of the compass, presage the interior spaces that were later to be found in Ayutthayan *chedis* and *prangs*. In addition it is to be noted that the height of the whole os a bit over one-and-one-half the width of the *chedi*'s base. However, when a triangle is laid over the whole, its base the width of the *chedi's* base, an elongated isosceles results. This, plus the diminishing height of each storey gives the *chedi* the appearance of greater height.

Plate 144 -- Plan, *Wat Phra Phai Luang*, Sukhothai, late 12th- early 13th C. CE, p. 464. Built by Jayavarman VII as a Mahayanist temple, the layout indicates the dedication--i.e., to The Lord *Buddha* (center), flanked by *Avalokiteshvara* and *Prajnaparamitra*. This design of the three shrines finds it genesis in early Khmer architecture and a descendent is to be seen in *Wat Phra Ram*, Ayutthaya. The hall to the east of the shrines is a later addition and indicates the proclivity of the Thai for the rectangle.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 145 -- Plan (enclosures), *Wat Mahathat*, Sukhothai, p. 465. The plan indicates the fact that the shrine ensemble is not on the east-west axis of the encircling girdle wall. Nor is the girdle wall on the east-west axis of the encircling moats. Nonetheless, the whole is concerned with the square and the water elements certainly indicate the influence of the Khmers.

Plate 146 -- Elevations: *Thai Chedis* indicating variation and development, Thailand, p. 466. The four chedi--*Chedi Wat Mahathat*, Nakhon Si Thammarat, c. 1176; *Chedi Wat Chang Lom*, Si Satchanalai, c. 1275-1300; *Subsidiary Chedi Wat Champhon Nikayarman*, Ayutthaya, a. 1600; and the *Phra Pathom Chedi*, Nakhon Pathom, c. 1855--indicate the lengthening of the forms in relation to the diameter of the *anda*. Although the *Phra Pathom Chedi*, Nakhon Pathom, c. 1855, is obviously the latest of the four, it was consciously patterned after the proportions of the early Sri Lankan *stupas* (See: **Plate 92**). The *Chedi Wat Mahathat*, Nakhon Si Thammarat, c. 1176, bears a close proportional resemblance to the *Thuparama Dagoba*, Anuradhapura (See: **Plate 91**), the original of which is close in age to the *Ruvanveliseya Dagoba*, however the *Thuparama Dagoba* had been "restored" and the proportions altered in the past century.

Plate 147 -- Elevation (reconstructed), *Prang, Wat Phra Ram*, Ayutthaya, p. 467. The proportions of this prang is rather close to those of the Khmers. The later Ayutthayan *prangs* tend to be taller and/or thinner in proportion than the *prang* at *Wat Phra Ram*, and certainly bear little resemblances to the "*prangs*" of the Rattanakosin Period (See: **Plate 155**).

Plate 148 -- Elevation (proportional), *Mahabodhi*, Pagan, 1211-1234 CE, p. 468. The *Mahabodhi* temple of Pagan is an adaptation of the temple at Bodh Gaya. The scale is smaller and the details are not as profuse, yet it is in keeping with the Indian counterpart. The Pagan influence is to be found in the detail of the cornices over the small shrines sunk in the solid extensions.

Plate 149 -- Elevation (proportional), *Chedi Chet Yot*, Chiang Mai, p. 469. Unlike the *Mahabodhi* of Pagan the *Chedi Chet Yot* is not merely an adaptation, but a unique design using the Bodh Gaya temple as its source. The proportion of the plan is similar to the *Tivanka Pilimage* of Sri Lanka, however the addition of two bell shaped *chedis* gives *Chedi Chet Yot* a distinct flavor indicating the Thai debt to Theravada Buddhism through Sri Lankan influence.

Plate 150 -- Elevation, *Chedi Si Suriyothai, Wat Suan Luang Sop Sawan*, Ayutthaya, p. 470. The proportion of this major *chedi*'s height is approximately four-and-a-half times the diameter (width) of the *anda*. However, it assumes greater height when placed upon its tall plinth and substantial terrace--the height is approximately seven times the diameter (width) of the *anda*.

Plate 151 -- Elevation, subsidiary stucco chedi, *Wat Khian*, Ayutthaya, p. 471. This *chedi*, late in the Ayuthaya style, indicates the extremes in which the the attenuation predominates, the *anda* is of minor proportions and "decoration" takes precedence.

Plate 152 -- The *Wat Phra Kaew*, Bangkok, 1785 CE, p. 472. Officially *Wat Phra Sri Rattana Satsadaram*--the royal *wat*, found within the precincts of the *Grand Palace*, Bangkok, is not a *wat* in the strictest sense of the word, since there are no facilities for the housing and care of monks (That: *sanghawat*). Nonetheless, to the foreigner it is the most recognizable of all the temples in Bangkok. For the Thais it also possesses special significance as it is the repository for the palladium of state, the venerated *Phra Kaew* (*Kèo*) *Morokot*, the *Emerald Buddha*. There is some minor conflict with regards to the date of the wat: CA states 1782, p. 124; CRB gives the date as 1784, p. 85; and SV states 1785, p. 163.

The *Wat Phra Kaew*, as the Chapel Royale of the Chakri Dynasty, does not follow a traditional *wat* plan. The orientation of the *ubosot* and the vast majority of the major structures is towards the east. *En toto Wat Phra Sri Rattana Satsadaram* is not axial, but contains numerous *viharns, chedis, prasats* and other structures primarily dedicated to the veneration of not only the *Emerald Buddha*, but also the dynasty as well. One may consider the terrace holding the *Phra Si Rattana Chedi, Phra Mondhop, Prasat Phra Thep Bidon* and the two *Phra Chedi Thong* as being primarily axial, were it not for the later inclusion--during the reign of King

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chulalongkhorn (Rama V)--of the of the model of *Angkor Wat* creating an architectural carbuncle on the northern side of the supporting terrace.

The *Phra Kaew Morokot Ubosot* (1) (The bold type numbers refer to the corresponding numbers on **Plate 151**) and the majority of the rest of the ensemble is contained within a *phra rabiang* (8) of eccentric shape--neither the east and west walls of this cloister are parallel, nor are the north or south walls. The inner walls of this *rabiang* depict the story of the *Ramayana* (Thai: *Ramakian*). The rest of the structures are: (2) *Phra Si Rattana Chedi* which holds a relic of the Lord *Buddha*; (3) *Phra Mondhop* which holds the "Royal Golden Edition" of the Buddhist canon; (4) *Prasat Phra Thep Bidon* or the Royal Pantheon; (5) *Ho Phra Nak* which is a viharn-like structure housing various relics of past princes and princesses of the Chakri Dynasty; (6) *Phra Wiharn Yot* which holds various *Buddha* images and the stone seat of King Ramkamhaeng, The Great (1279-1300); (7) *Ho Phra Monthian Tham* which is the library of religious texts; (9) *Ho Phra Khanthararat* is a small chapel which holds an image of the *Gandhara Buddha*; (10) *Ho Rakhang* is the bell tower; (11) twelve *Sala Rai* or open pavilions (12) *Ho Phra Ratchakoramanuson* which is a small *viharn*-like structure which contains *Buddha* images, each dedicated to a king of the Ayutthaya period; (13) *Ho Phra Ratchaphongsanuson* which is identical to the *Ho Phra Ratchakoramanuson* contains *Buddha* images dedicated to the kings of the Chakri Dynasty; (14) *Phra Chedi Thong* are two golden *chedis* dedicated to the parents of Rama I; (15) *Phra Prang Paed Ong* are the eight *prangs* which line the eastern side of *Wat Phra Kaew*, six of which are to the east of the *phra rabiang* and two are contained in the extension which juts eastward from the terrace of the *Phra Si Rattana Chedi, Phra Mondhop, Prasat Phra Thep Bidon* and the two *Phra Chedi Thong*; (16) the model of *Angkor Wat*, (17) three *Busabok Thrones*, (18) six entrances guarded by demons of various colors, and (19) *Phra Photithat Phiman* which is a shrine containing relics of the Lord *Buddha* and the *bodhi* tree under which he sat.

This *wat* epitomizes ecclesiastical architecture of the Rattanakosin period and in particular imperial architecture of Thailand. The term "imperial" is employed here due to the fact that during the reigns of the Chakris, Thailand was suzerain to areas of present day Cambodia, Laos and Malaysia. Axiality has been sacrificed to create an ensemble of astounding two and three dimensional richness. The *prasat*-form had been modified in the *Prasat Phra Thep Bidon*, however the Sri Lanka-style *stupa*--patterned after the *stupa* of *Wat Phra Si Sanphet*, Ayutthaya--had been adhered to in the *Phra Si Rattana Chedi*. The platforms and foundations of the *viharns* and *ubosots* are flattened, unlike those of Ayutthaya which curved upwards, boat-like at the corners. The thin *prangs* and the crown-like elements on the *Phra Mondhop* and the *Phra Wiharn Yot*, both of which have become hallmarks of the Rattanakosin. But, beyond all this the profusion, the riot of glittering color on every surface, dazzling the patterns, the intricate designs causes one's eye to dart unceasingly over all the surfaces and imbues one with a sense of inestimable wealth and power. If the forms are not baroque, certainly the colors are.

Plate 153 -- Plan *Wat Suthat*, Bangkok, 1807 CE, indicating *Manduka Mandala*, p. 473. The *Wat Suthat*, a monastery of the first rank mirrors its predecessor, *Wat Phra Chetuphon Wimonmangkhalaram*, which used the circular *Manduka Mandala* as a design basis for the *ubosot* ensemble. This *wat* utilized the circular *Manduka Mandala* as a design basis for the plan of the *viharn* ensemble. The outer ring encircles the whole ensemble. The second ring includes the north and south entrances through the *phra rabiang*. The third circle surrounds the *viharn*'s platform and involves the area of the east and west entrances through the *phra rabiang*. Finally, the inner circle protects the cella of the *viharn* which is nearly square in its plan. In addition, of note is the proportions of the viharn are nearly square, the porticoes, of major proportions, do not belie this fact.

Plate 154 -- **Sukhothai** (after *Phra Phuttha Chinarat Viharn*, Si Satchanalai, c. 1300 CE); **Ayutthaya** (after *Wat Phra Mane Ubosot*, Ayutthaya, c. 1450 CE), **Rattanakosin** (after *Phra Kaew Morokot Ubosot*, Bangkok, a. 1782 CE), p. 474. The plan origins of the Thai *ubosot* and/or *viharn* is in many ways closely parallel with the early *Buddhist chaitya* hall (See: **Plate 16**). The rectangular enclosed space with a row of columns flanking the central axis mirrors part of the *chaitya* plan as well as the minor, non-liturgical buildings of the Khmer temple mounts (See: **Plate124**). However, there are obvious variations. Generally, the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

two or three entrances of the front façade are mirrored on the back of the Thai *ubosot/viharn*. Secondly, the semicircular arcaded ambulatory which encircles the *stupa* of the Indian *chaitya* is not duplicated within the Thai *ubosot/viharn*. Generally, there is space between the altar/shrine area and the back of the *ubosot/viharn* for one to walk, but normally, this area is blocked off, making circumambulation impossible for the devotees. In part, due to the fact that the performance of circumambulation of the sacred image in the *ubosot/viharn* is not as important or desirable for the Thai as it is with the other sects or faiths of the region. Thirdly, frequently, particularly in the larger, more important, and later Thai *ubosot/viharn's*, one finds a row of column/piers flanking the external walls of the cella. In some cases they are to be found only down the outside of the two side walls, and in other cases surrounding the cella completely. *En plan* this presents an obvious variation and variance. The apparent reason for this variation is to be found in the roof structure(s) synonymous with Thai temple architecture which is gabled with a high pitch and wide overhang. As is indicated in the Ayutthaya *ubosot*, there may be a raised porch, flanked by its own roof and two pillars. This form, this porch is generally for royal usage and is repeated in the *Dusit Mahaprasad* (Thai: var. *Dusit Maha Prasat*) where the king received the obeisance and levy of his vassals.

However, this plan as it evolved in Thailand as well as within Thailand's former spheres of political influence, particularly Laos, is in many ways uniquely Thai. The cross-axial plans preferred by the Khmer who had a strong influence upon its former vassal or even the mirror-axial plans, hold little interest for the Thais, and certainly appear infrequently after they threw off the yoke of the Khmers. This influence is obvious upon the early wats of the Ayutthaya period, especially the Wats Phra Si Rattana Mahathat, Phra Ram, Ratchaburana as well as others. The major influence appears to be with the lesser or non-liturgical structures of the vast Khmer complexes--e.g., see the Northwest Library plan of *Angkor Wat* (See: **Plate 124**).

Numerical symbolism within the *ubosot/viharn* cannot be dismissed. As noted above there was a strong, viable connection between Thailand and the *Brahmanic* faith of India.

Plate 155 -- Plan, *Wat Arun Rajtharam*, Thonburi, 1842-1847, p. 475.

Plate 156 -- Elevation and Plan, *Prang, Wat Arun Rajtharam*, Thonburi, 1842-1847, p. 476. The *prang* of *Wat Arun Rajtharam*, Thonburi, indicates, in this form the predilection that the Thai architect/builders had for elongating preexistent forms. What they had done to the *stupa* form, so the did to the *prang*. When comparing this *prang* to that of *Wat Phra Ram*, the difference becomes obvious. Wat Arun's prang height is approximately three times the with of the base where Wat Phra Ram's prang is approximately two-an-one-third. When placing the prang on its elaborate podium base rising from the upper pradakshinapatha, then the proportions is slightly over four times the width of the base, and set upon its massive support podium, it is over six times the width of the base. The form is lengthened in proportion to its base and in the case of the *prang* of *Wat Arun Rajtharam*, it is set upon a massive podium, shown here at bottom right, giving even more prominence to the height.

Plate 157 -- Elevation, *Prasat*, based on: *Wat Benchamabophit*, Bangkok, 1901, p. 477. With a design based on preexistent Latin cross plans, the early twentieth century temple is a modern synthesis of the prasat-plan. The elegant proportions, the emphasis upon verticality and the triple tiered roof give *Wat Benchamabophit* a place that many feel is the epitome of Thai design. Certain European elements may be perceived--not unusual since the reigning monarch, King Chulalongkhorn, had an appreciation--some say a fascination--for things European.

Plate 158 -- Elevation, *Lohaprasad, Wat Ratchanatdaram*, Bangkok , 1824-1850, p. 478. The unique *Lohaprasad* at *Wat Ratchanatdaram* of Bangkok, possesses little in the design of the plan or in the elevation to categorize it as a Thai structure except for the forty-nine *shikharas* which are placed along the roof line of the second and fourth storeys, and atop the busabok over level five. Its square plan and the openings--windows and doors--on each level give the elevation something of a European flavor. Pyramidal in form, it also mirrors the *Garden Pavilion* of the *Kotilal Fort*, Delhi (See: **Plate 27**, and **Figure 48**). **Triangle A** is based upon the outer, roof-line *chedi*-forms, minus their *chattravalis*. **Triangle**

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Comments on Plans, Elevations And Sections (Concluded)

B is based upon the roof-line of the fifth, fourth and second storeys. **Triangle – – –** is an equilateral triangle with a base the width of the whole. Theoretically based on an early Sri Lankan form, the elevation does not mirror Thai or other regional models.

Plate 159 – Elevation (proportional, proposed), *Temple A-1* (proposed), Mi Son, Vietnam (c. 930-40 CE), p. 479. Considered by many to be the high point of the early period when the capitol was in Quang Nam. The Temple A-1 is characterized by a traditional floor plan, but differs in the lavish, almost overpowering architectural detail and "decoration." Each storey recedes in size and scope, forcing a diminished perspective.

Plate 160 -- Elevation (proportional), *Temple A-1* (proposed), Mi Son, Vietnam (c. 930-40 CE), p. 480. *Temple A-1* is shown here with emphasis upon the central block, indicating its strong verticality. The **A** square(s) indicates the width of the base and from the base. The **B** square(s) indicates the width of the base of the sanctuary and from the base of the whole. The proportion coupled with the diminishing scale of the crowning storeys gives emphasis, visually, to the vertical thrust.

Plate 161 – Elevation reconstruction (west), *Po Nagar*, Nha Trang, Vietnam, c. 1000-1025, p. 481. Certainly, there is little difference in the plan of *Po Nagar* than from other plans of both India and those of the region. Also the proportions of the roof structures, the receding storeys and the mass of three dimensional elements indicates a close relationship to Java. The proportion of the base to the height of the whole is rather short--not quite two times the width of the base. However, what is unique with Champa is the emphasis upon the vertical as is indicated in the narrow elements of the main block as well as the close repetition of vertical lines (elements). This coupled with the successive receding storey height, gives an impression of greater height than the shrine actually possesses.

Plate 162 – *Masjid Terengkera* (Proportional), Malacca, p. 482. The plan of this *masjid* indicates a debt to the Hindu-Indian square. However the roof-line is Chinese in character, reflecting the Baba influence in this city.

Plate 163 -- *Masjid Kampung Laut* (Proportional), Terengganu, p. 483. Like the Masjid Terengkera, the roof-line (*bumbung limas*) indicates a strong debt to China. Here the proportions of the roof section is somewhat squatter than the west coast examples. However, in both cases this roof structure is sound as it aids in removing the warm air of the interior. In addition, the elevation of the whole upon posts and the wood construction also aids in providing a relatively cool interior.

Plate 164 -- *Masjid Kampung Hulu* (Proportional), Malacca, p. 484. The roof-line (*bumbung limas*) becomes a standard form along the west coast, prior to the beginning of the Twentieth Century when a pseudo-Moorish style predominates. The *bumbung limas* which can bee seen as a typical indigenous form was replaced by an imported, western Islamic design.

Plate 165 -- Plan and reconstruction, *Rumah Tiang Enam* (*Rumah Ibu* or *Rumah Bujang*), p. 485. Two square elements form a rectangle in what is seen as the archtypical Malay house plan.

Plate 166 – Plan and reconstruction, *Malacca*-style House (with open court), p. 486. The *Rumah Ibu* or *Rumah Bujang* becomes the basis for this extended form, particularly on the west coast.

Notes: Plans, Elevations And Sections

[1] The term "proportional" is used in those computer generated drawings of elevations where the main import is towards proportions and not "scale" drawings.

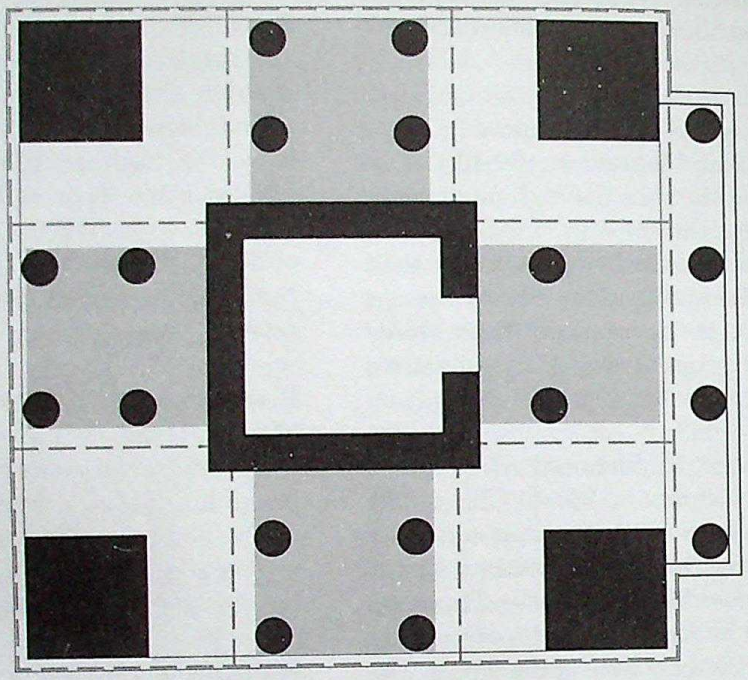
[2] The term "proposed" is used in those computer generated drawings of elevations where there are elements missing or in such a state of ruin that they can not be readily and completely drawn without proposing or supposing solutions. The proposed solutions are not intended to be definitive, merely, "proposed."

[3] Of note is the fact that the monolithic monasteries of India--e.g., at Ajanta and Karli--were not really "of the world" but tended to be almost hermitages. Monks of the *Theravada* tradition tend to be more frequently of the 'city-dweller' variety rather than the hermit or forest dwelling monk. The monasteries of Pagan were in the city and therefore the function of the monastery and the monks was people oriented rather than meditation oriented.

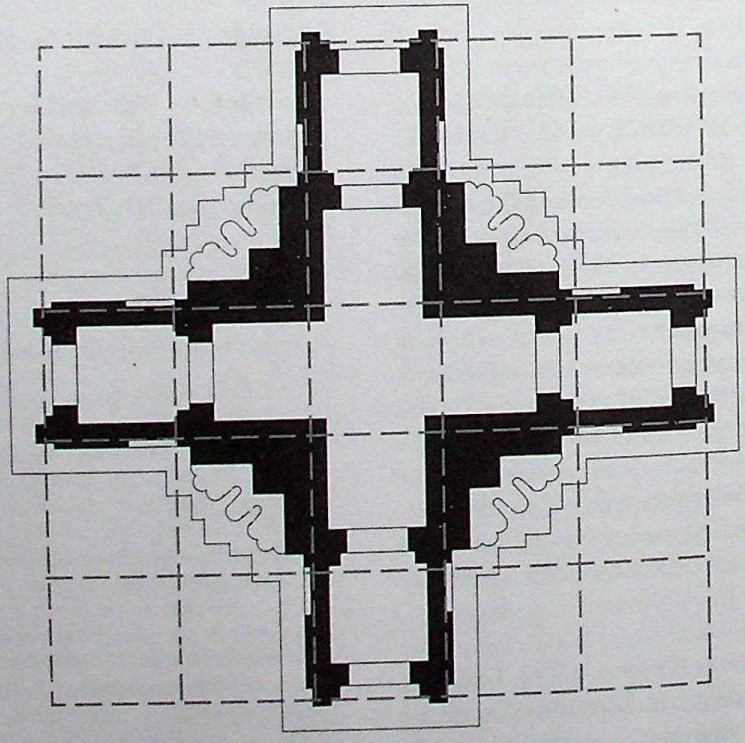
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 90 -- Cross Axial Plan, a: *Dharmaraja-ratha,* Mahaballipuram (adapted), b: *Preah Thkol Central Shrine,* Angkor



a.



b.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

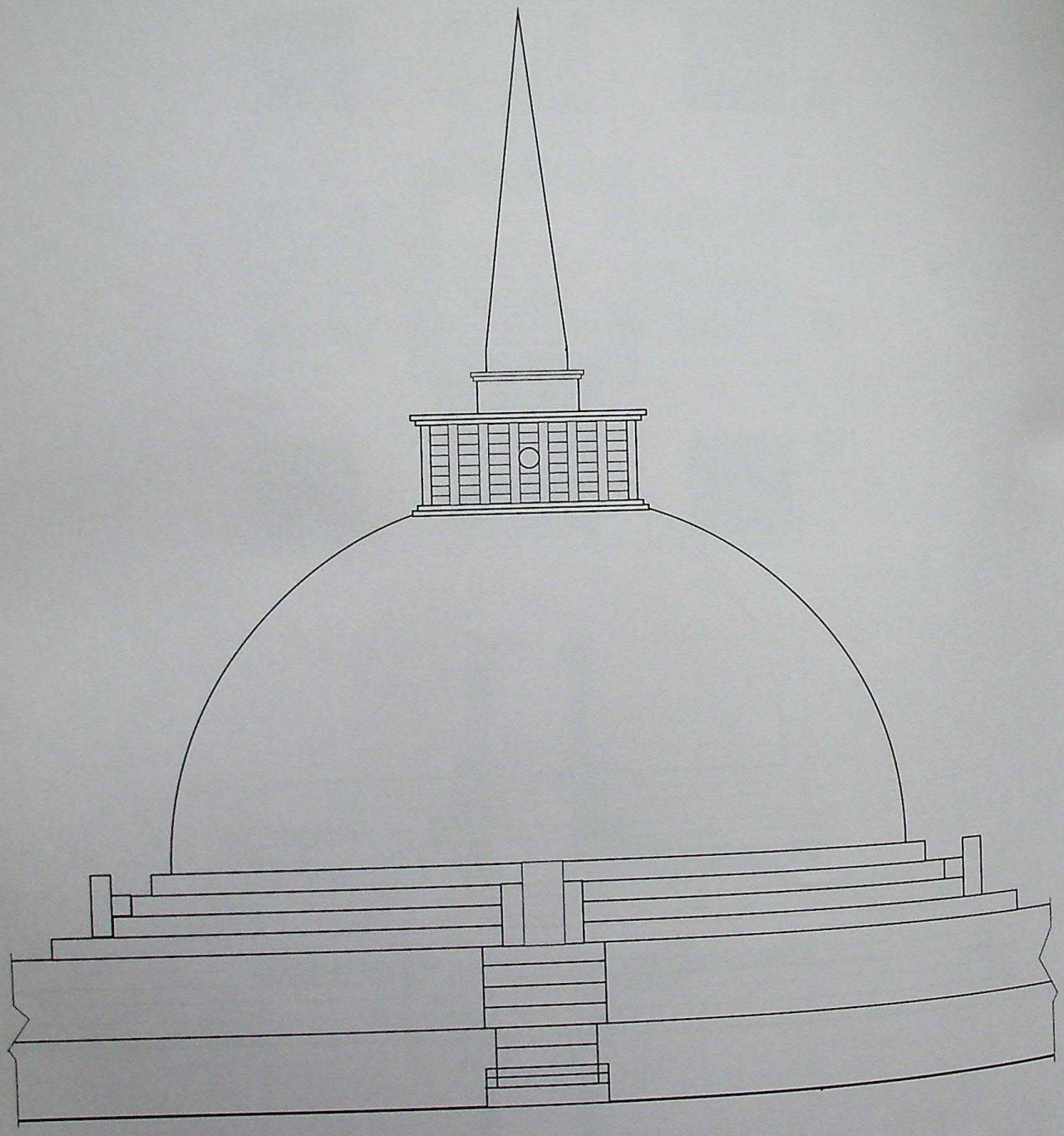
Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 91 -- Elevation, *Thuparama Dagoba*,
Anuradhapura, III C. BCE

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

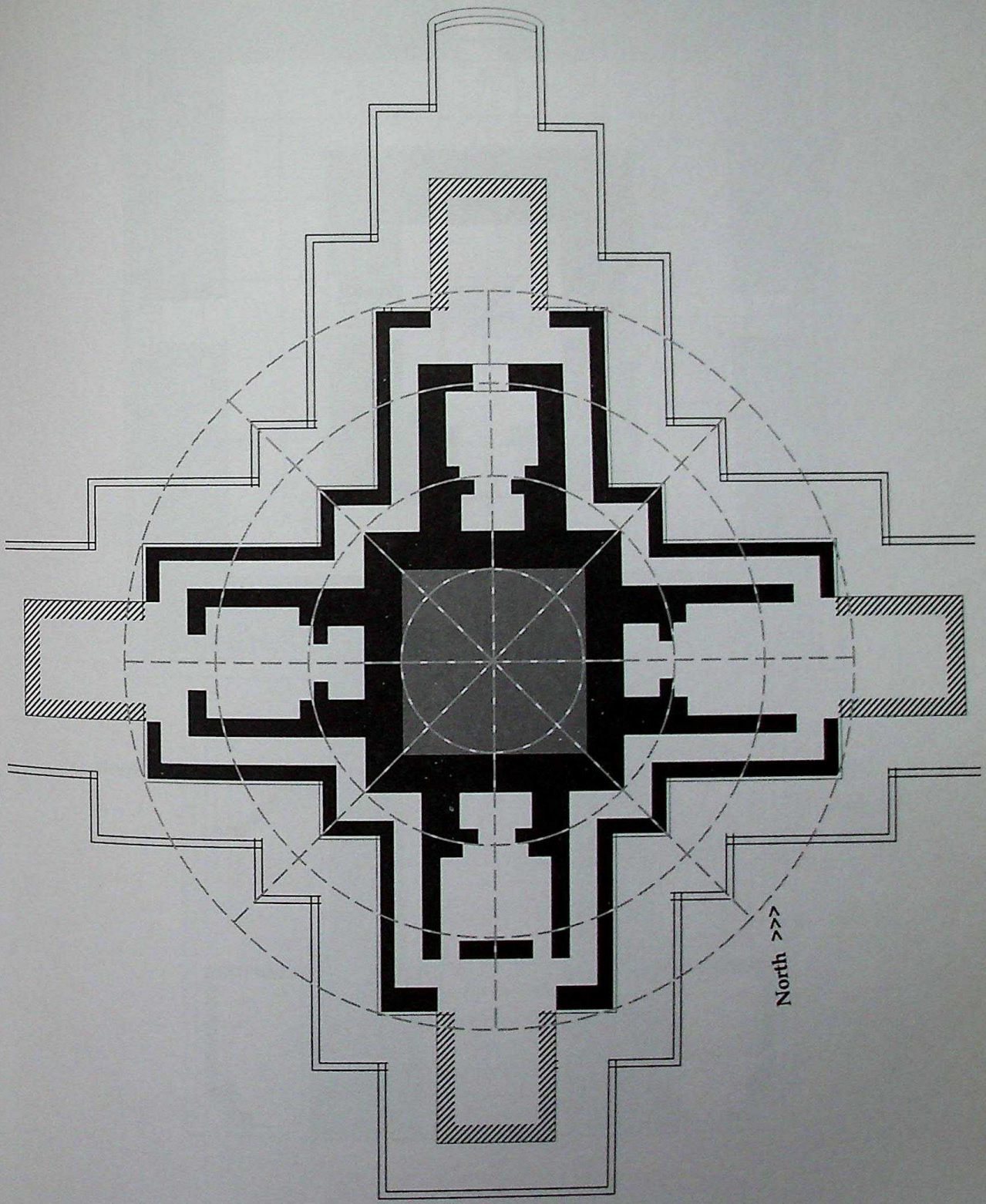
Plate 92 -- Elevation, *Ruvanveliseya Dagoba*, Anuradhapura, II-I C. BCE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

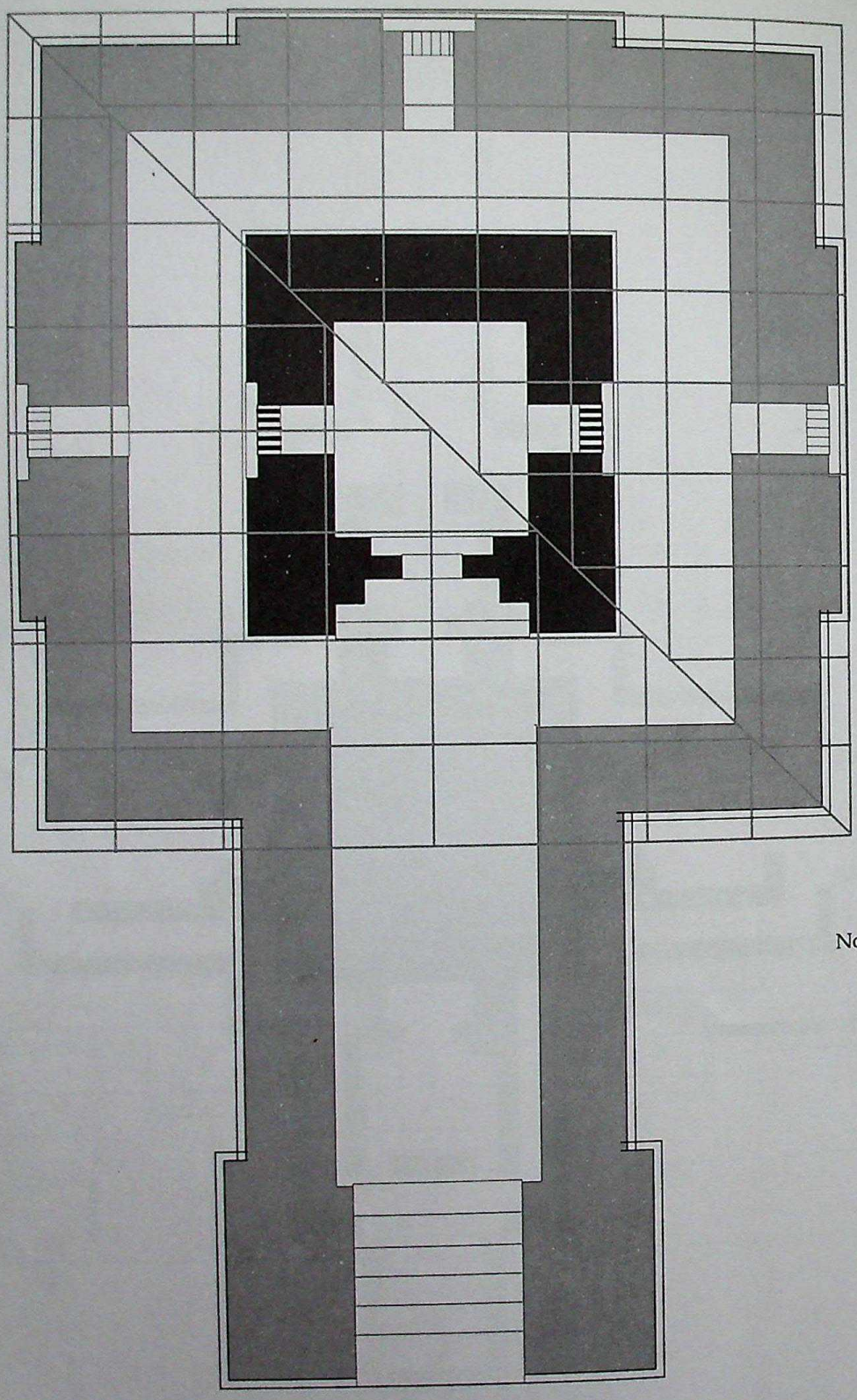
Plate 93 -- Cross Axial Plan, *Temple of Maha-Vihara Dharmapala,* Paharpar, c. 710 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 94 -- Axial Plan, *Parvati Temple*, Nachna (c. 450-499 CE)

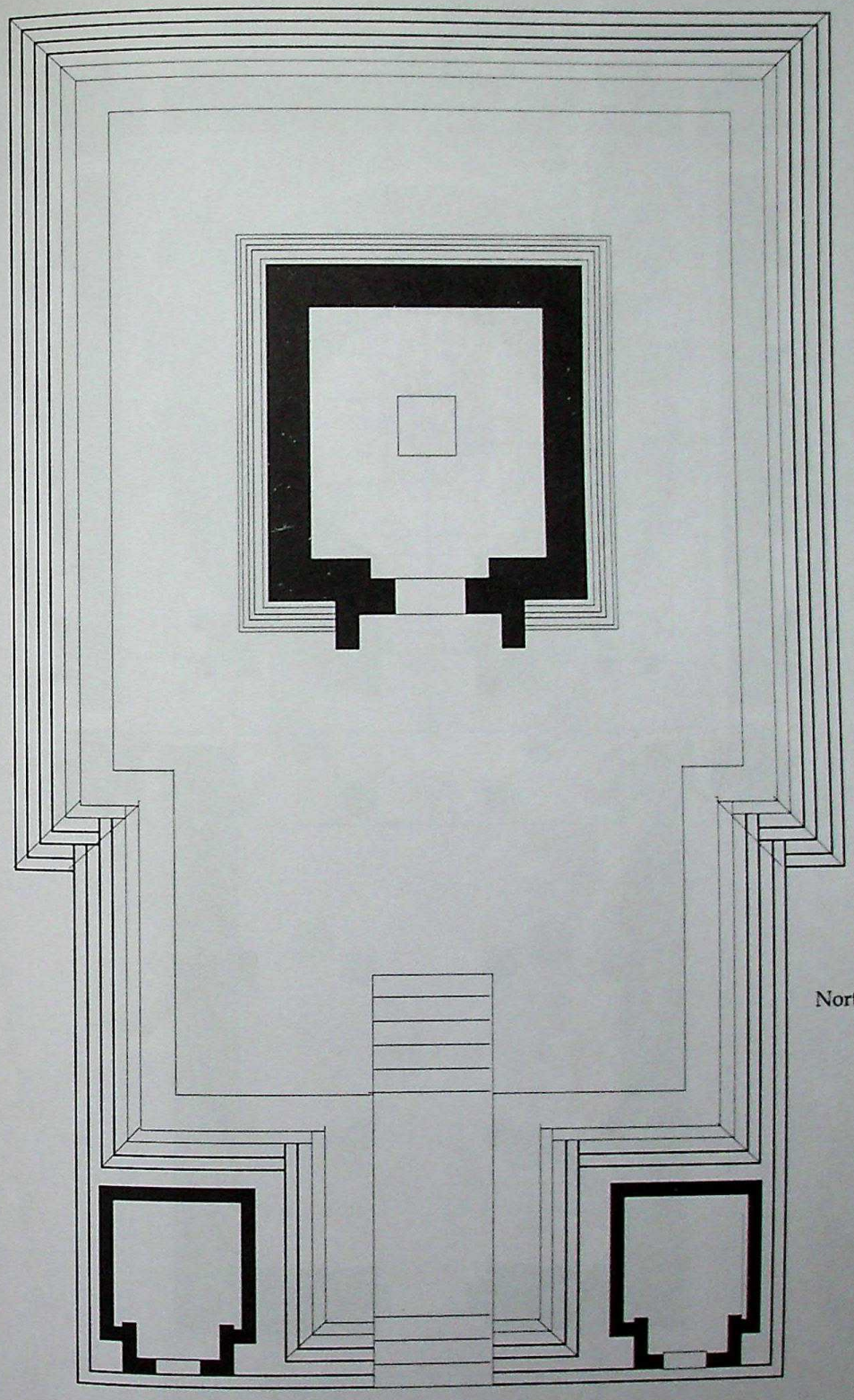


North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

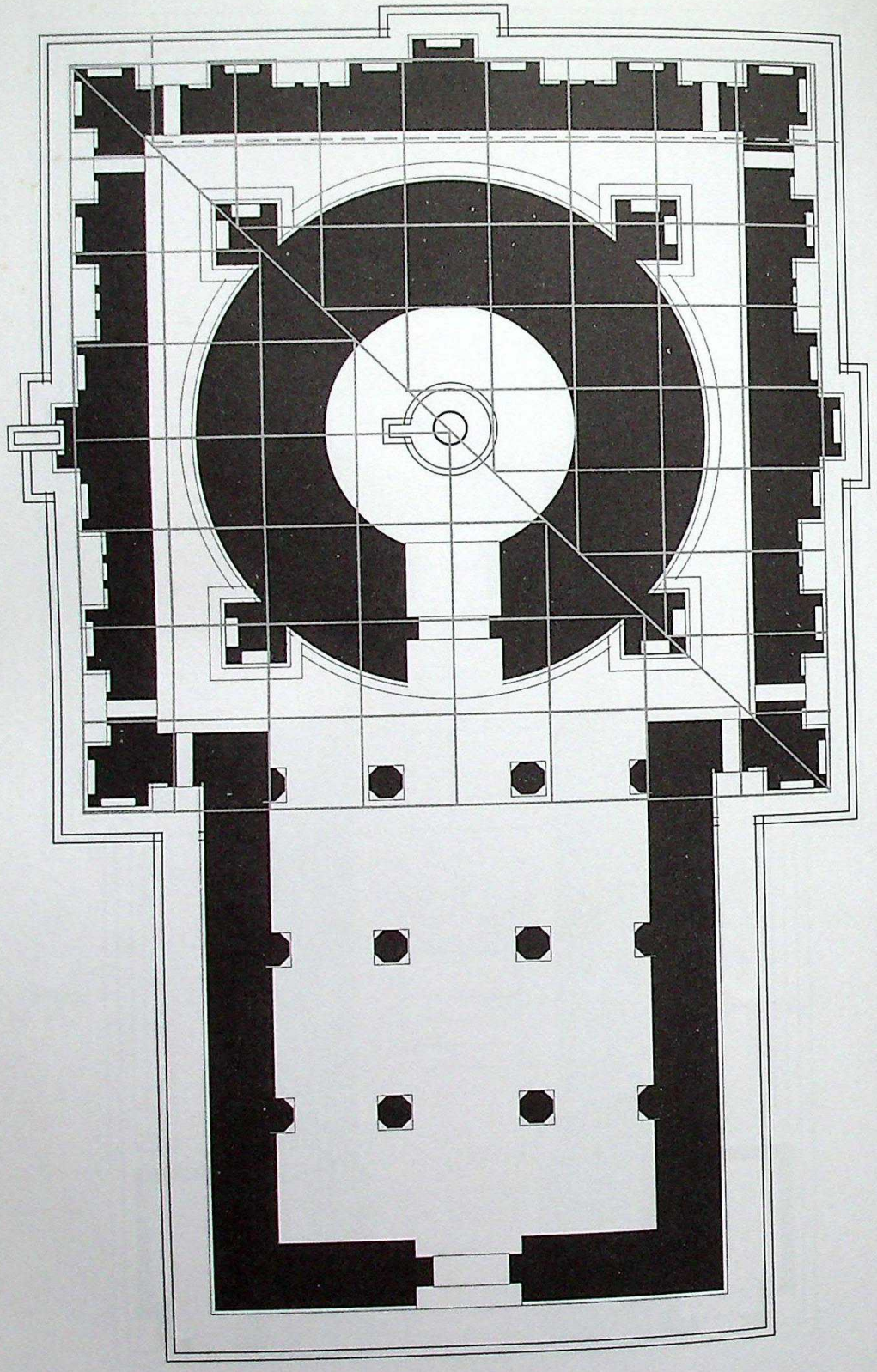
Plate 95 -- Axial Plan, *Shiva Temple*, Bhumara (c. 475-499 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

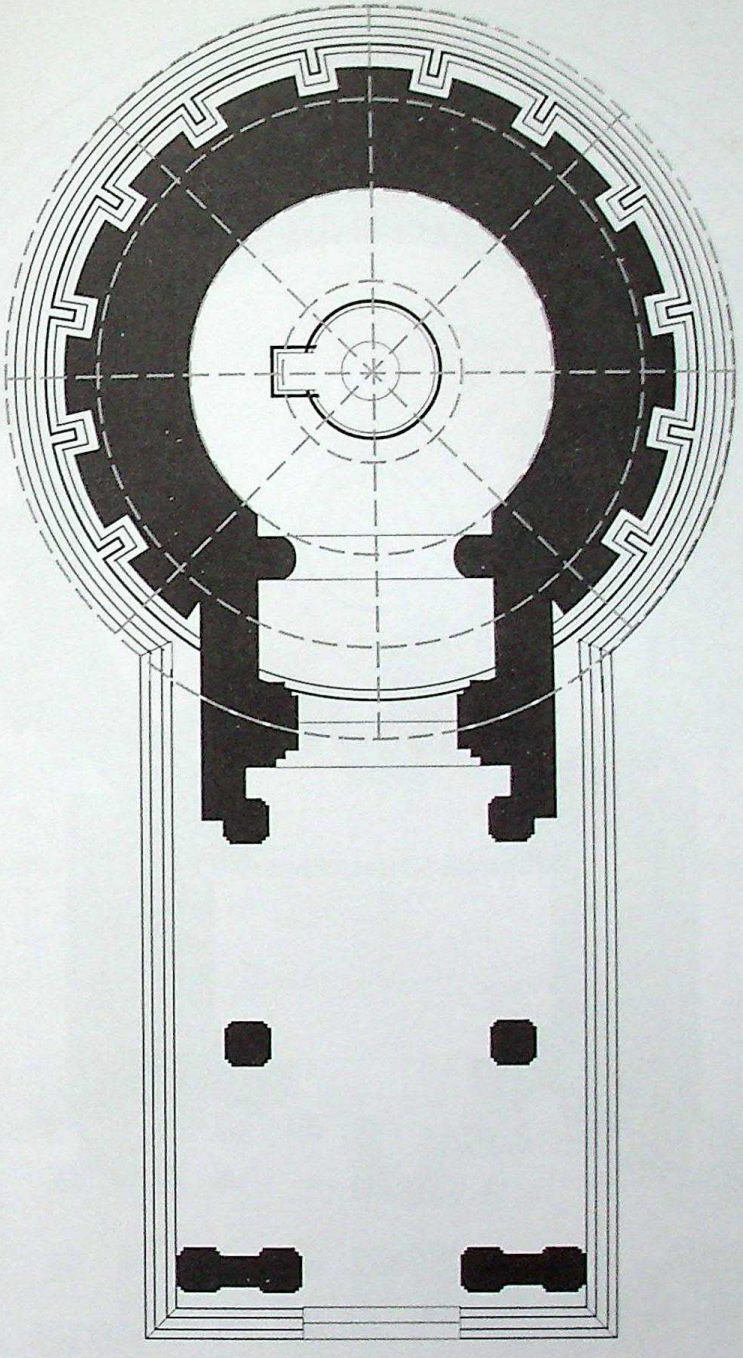
Plate 96 -- Axial Plan, *Vijayalaya-colisvara Temple*, Narittamali (c. 850 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

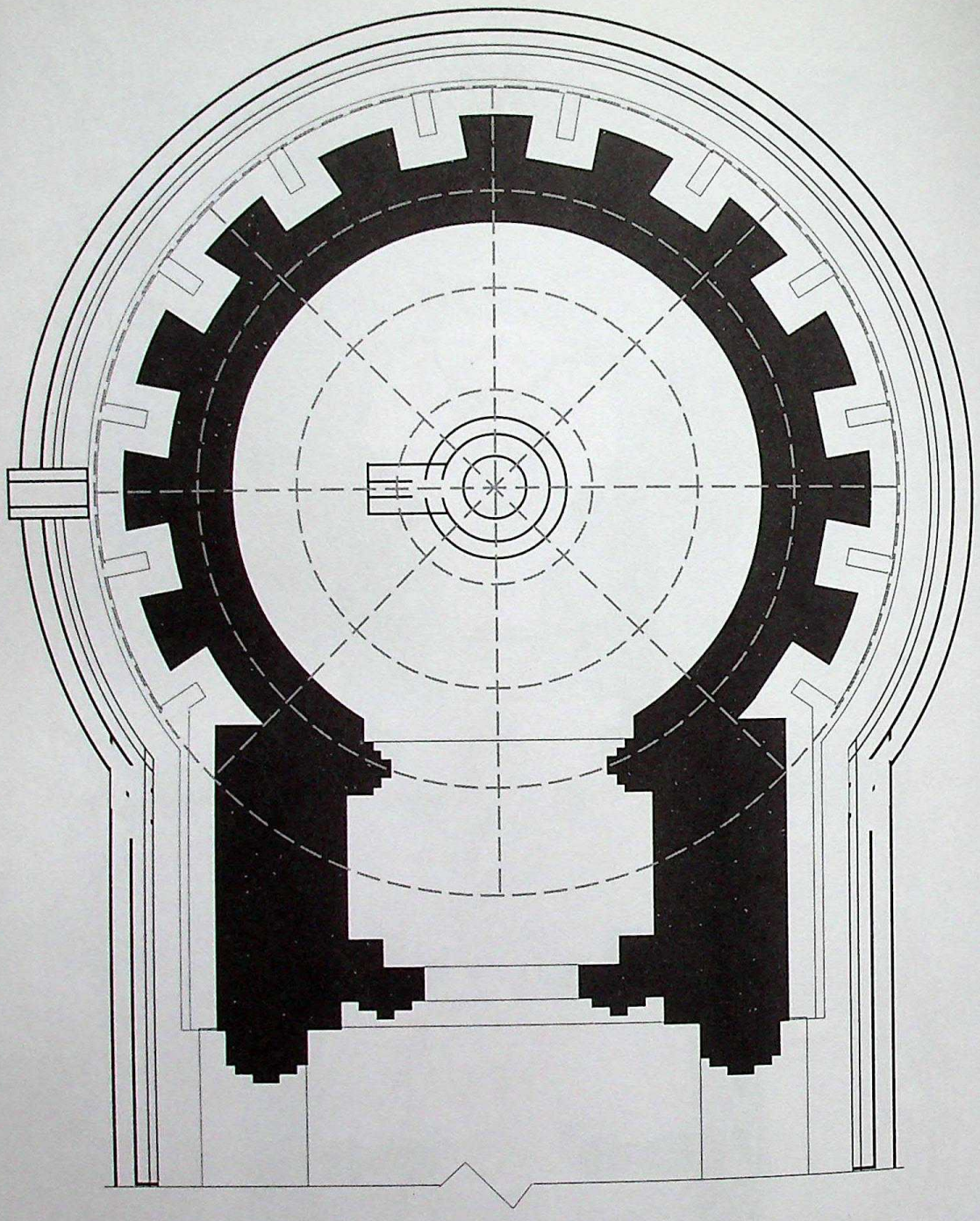
Plate 97 -- Axial Plan, *Shiva Temple*, Masaon (c. 950 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

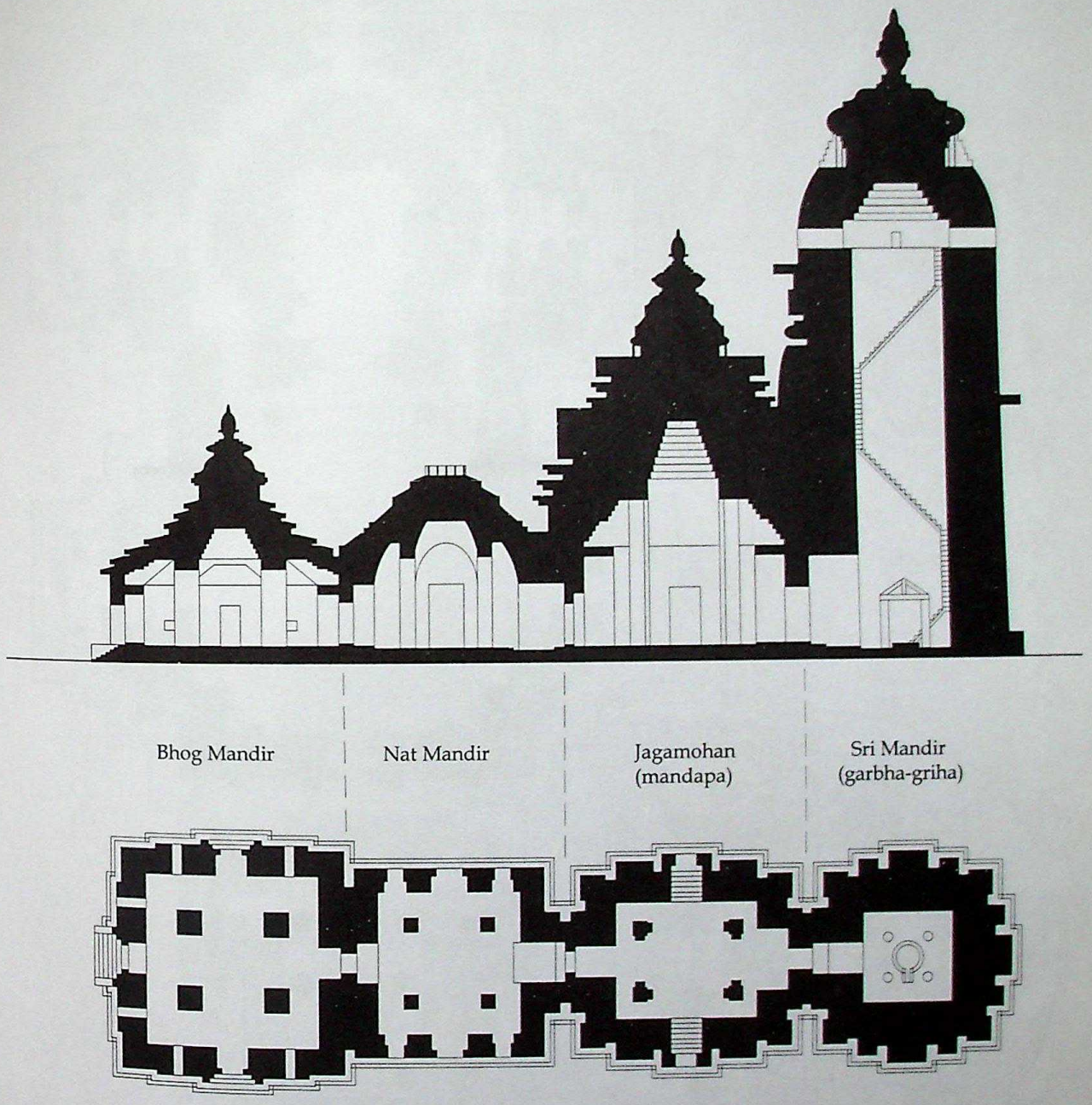
Plate 98 -- Axial Plan, *Shiva Temple*, Chandrehe (c. 950 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

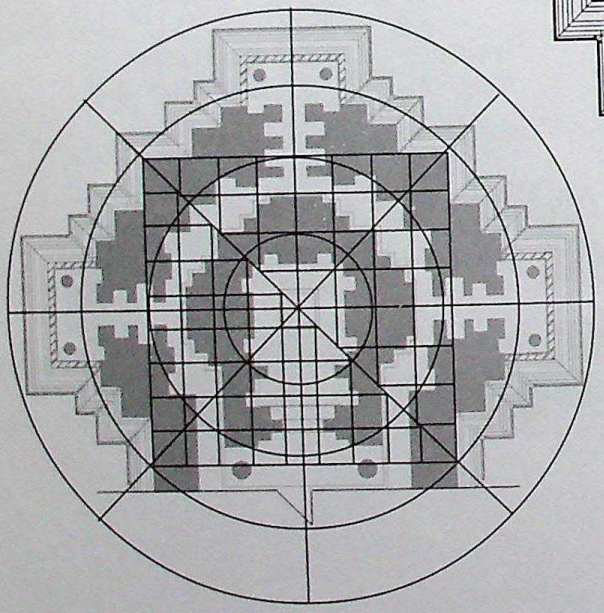
Plate 99 -- Elevation and plan, *Maha-Lingaraja Mandir*
Bhuvaneshvar (c. 1000 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 100 -- Axial plan, *Kandariya Mahadeo*, Khajuraho, 11 C. CE

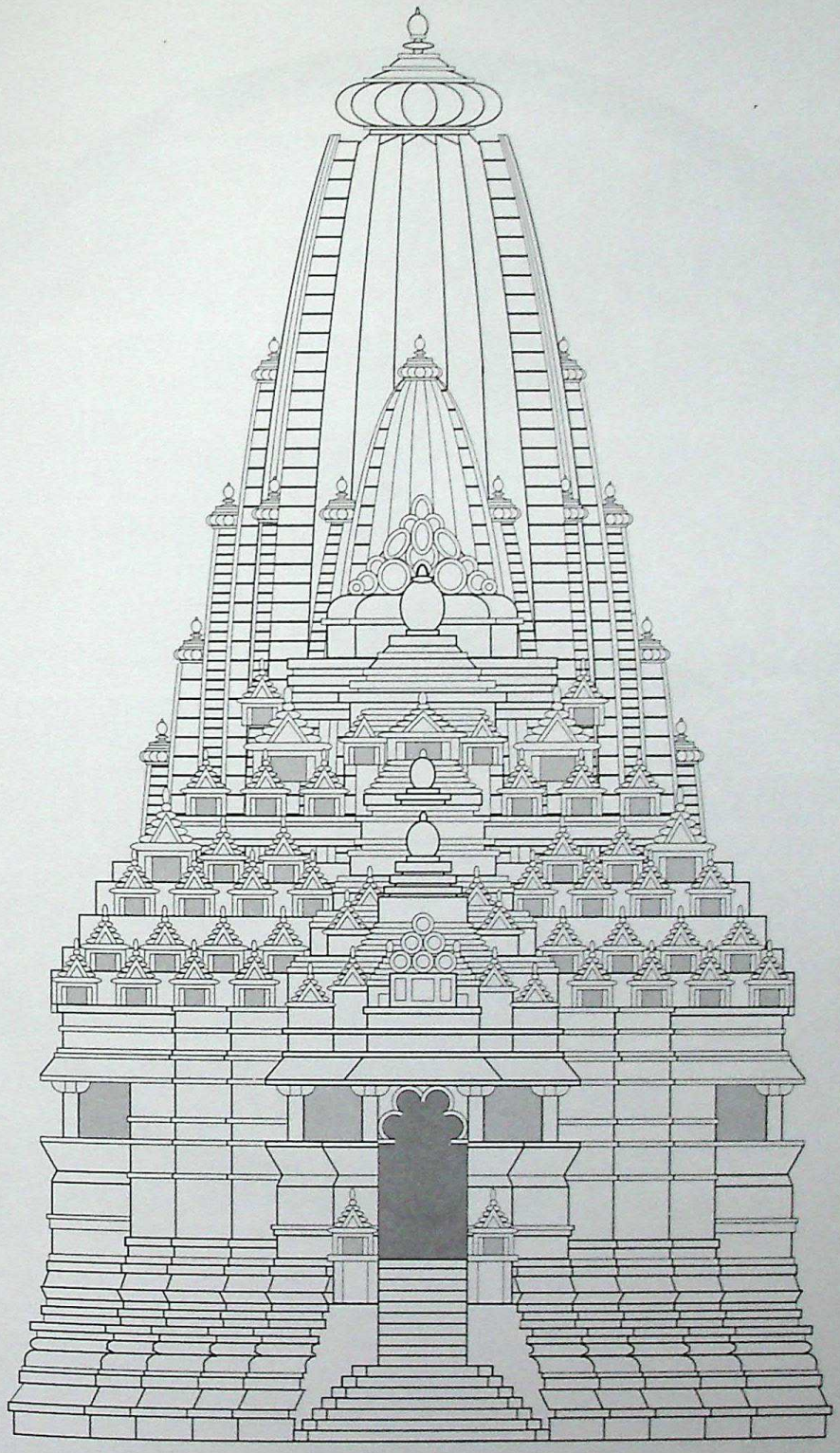


Garbha-griha with *Manduka* and *Paramasayika Mandalas* (square) and circular *Manduka Mandala*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

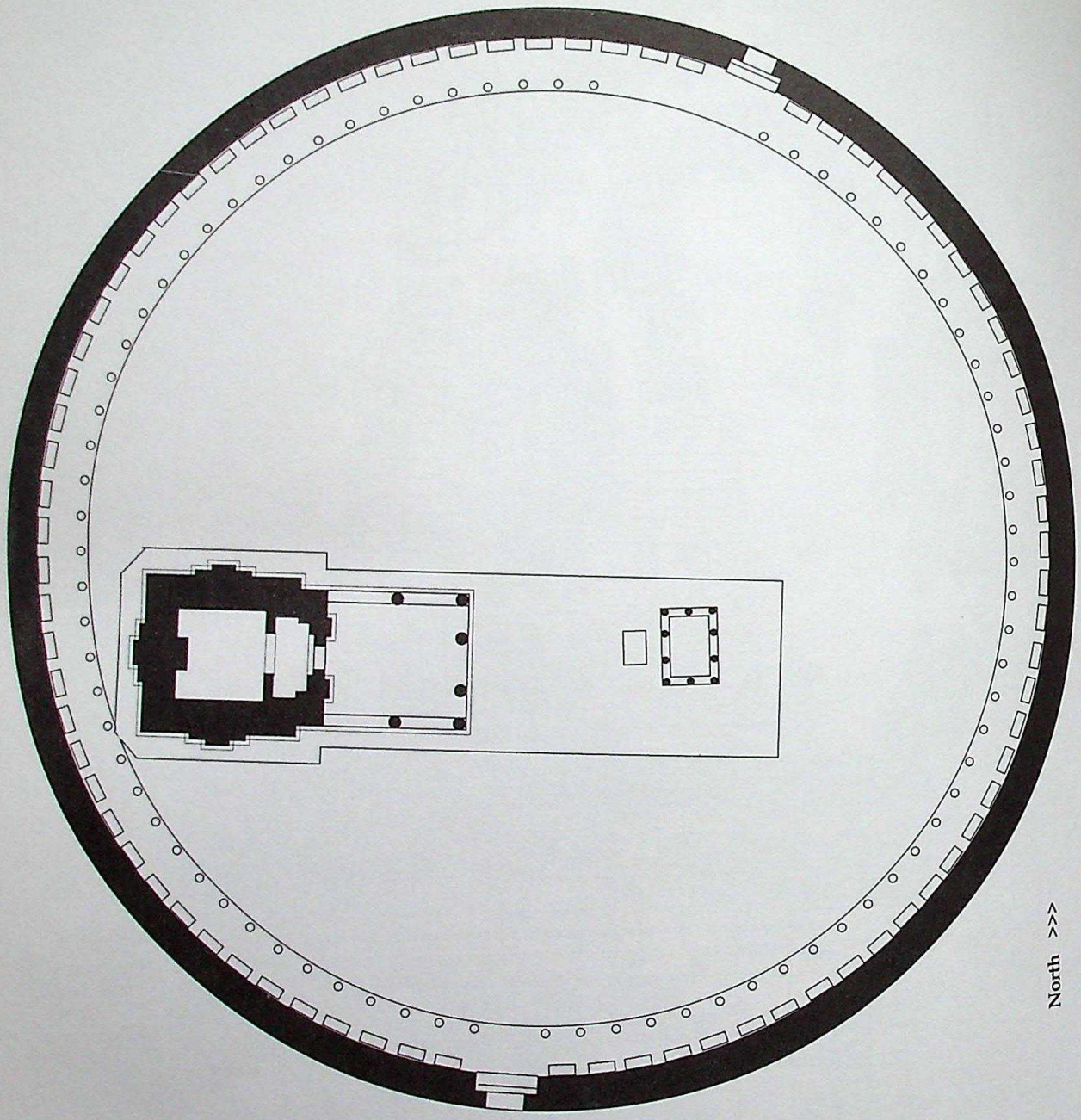
Plate 101 -- Elevation (proportional), *Kandariya Mahadeo*, Khajuraho, 11 C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

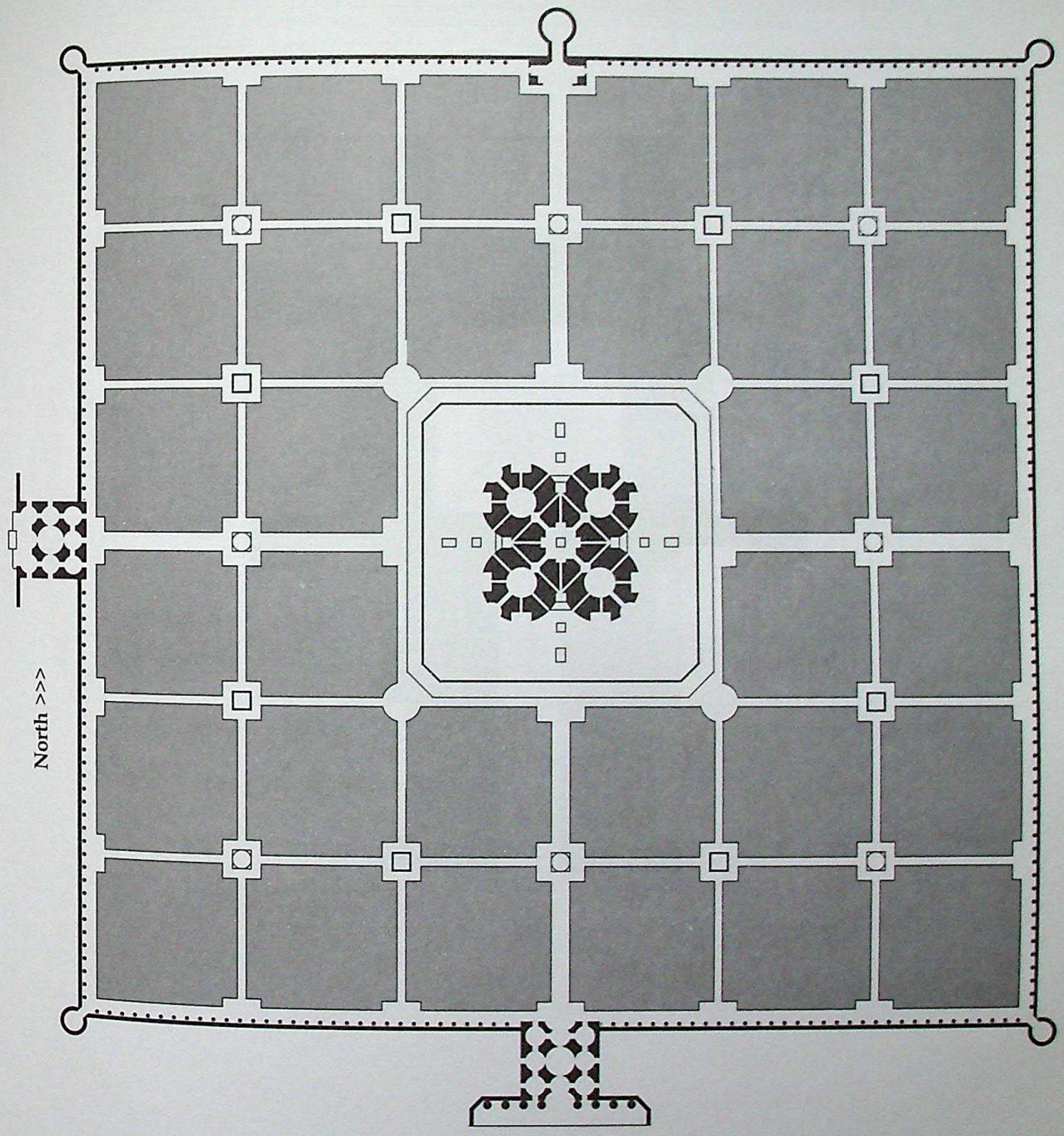
Plate 102 -- Plan, *Temple of the Sixty-four Yoginis*, Bheraghat, Madhya Pradesh,12 C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

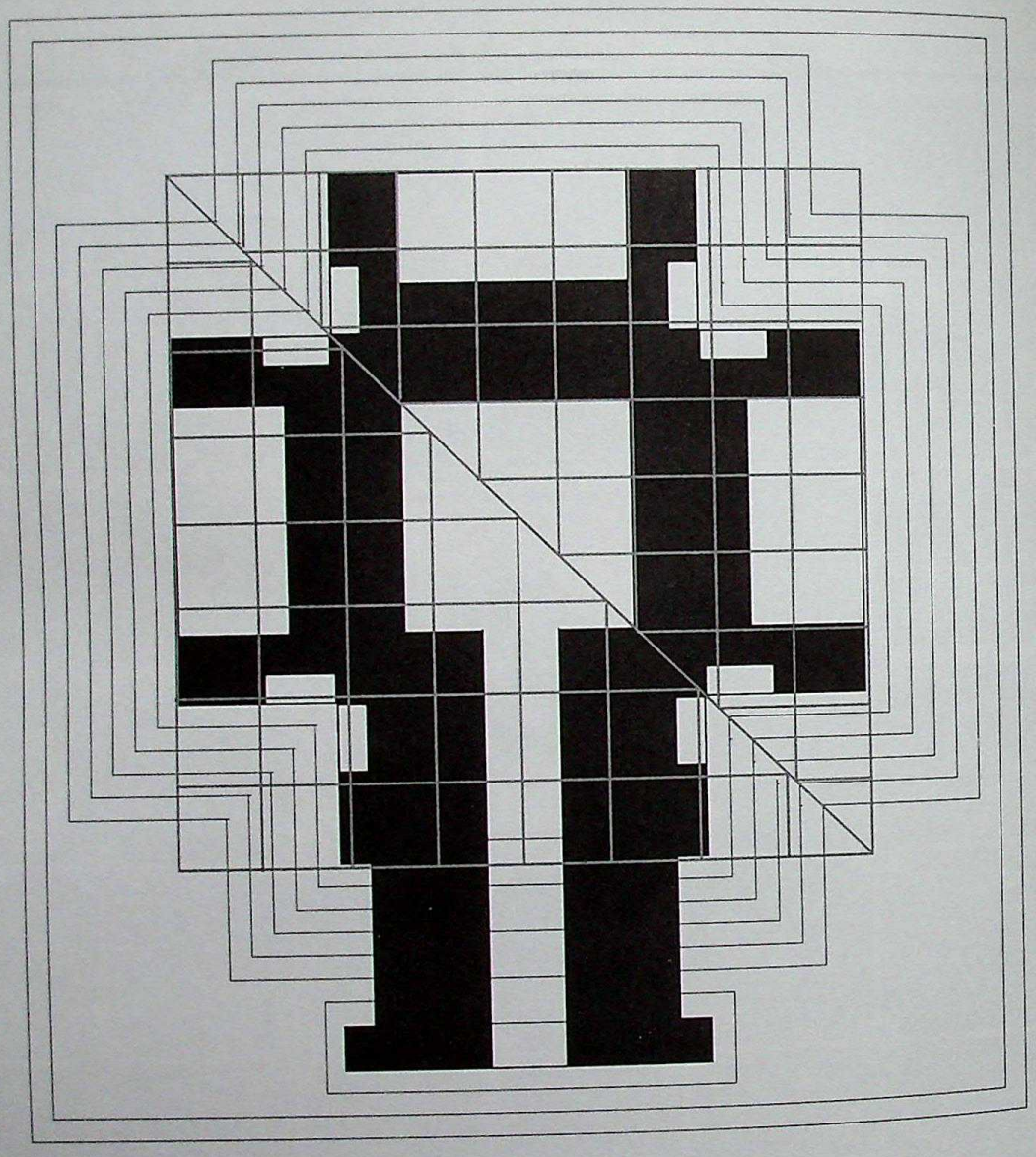
Plate 103 -- Cross Axial Plan, *Tomb of Humayun*, Delhi, 1565 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

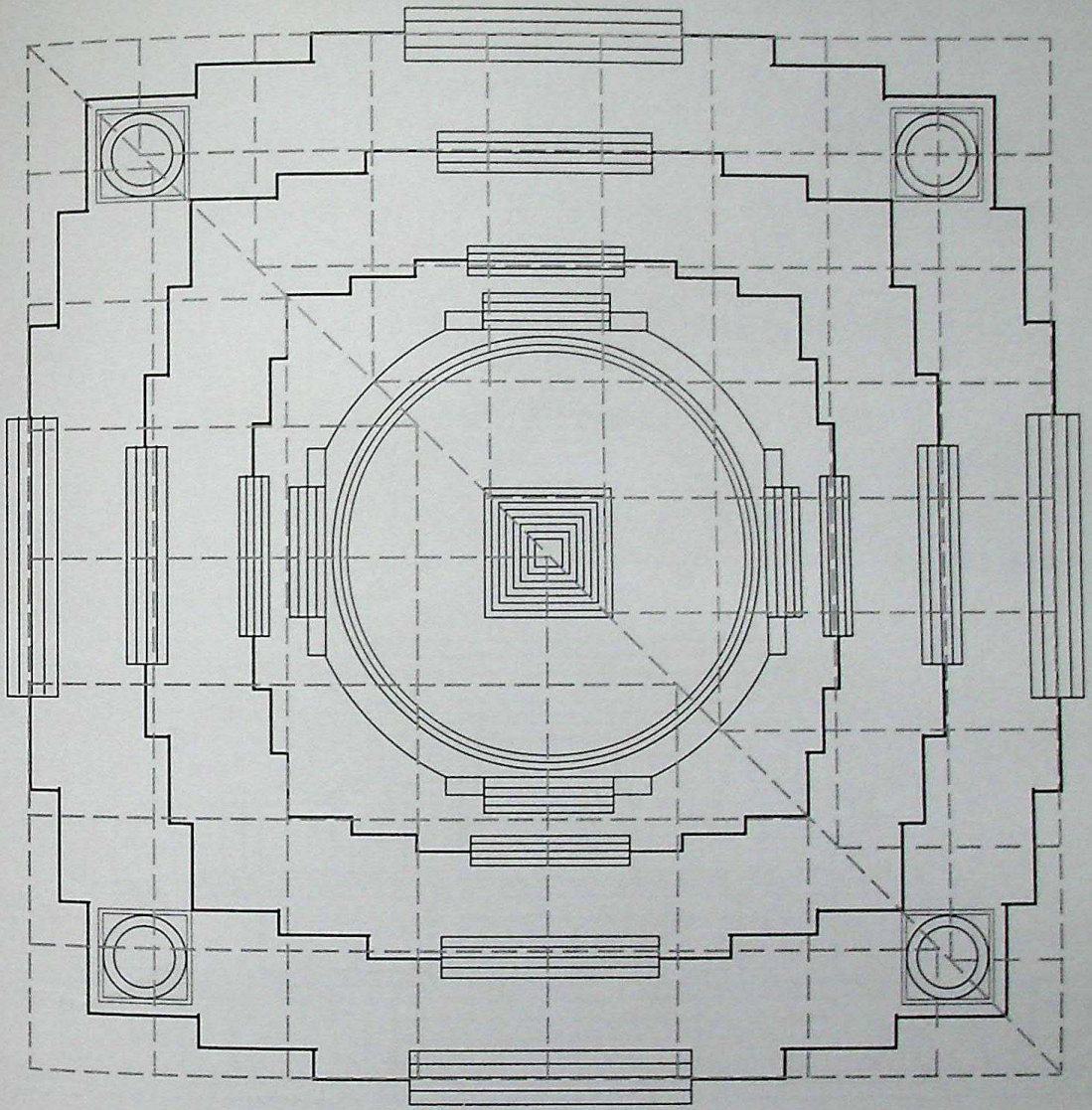
Plate 104 -- Axial Plan, *One Room, Three Alcove Temple* (typical), Java, 8th-9th C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

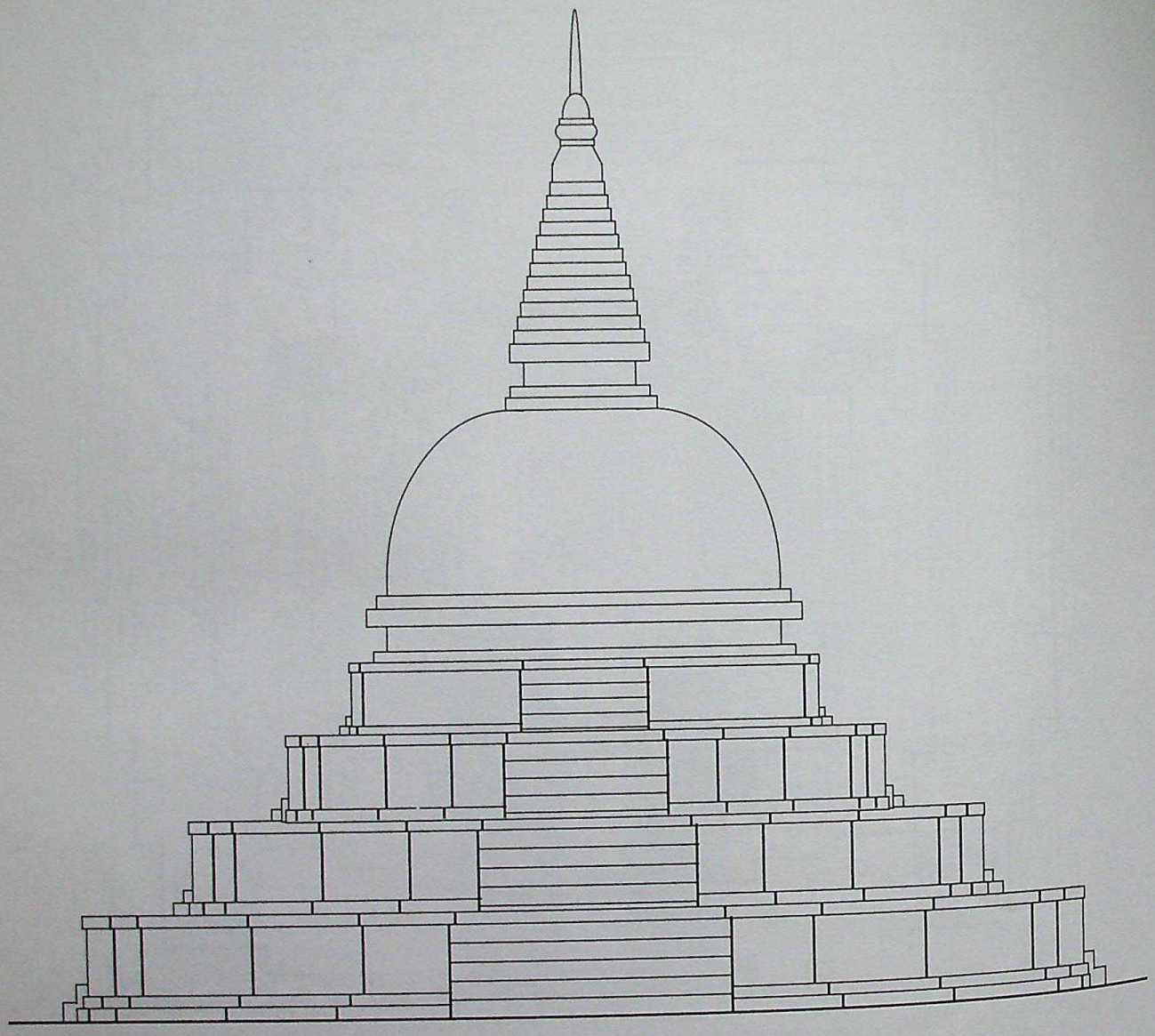
Plate 105 -- Cross Axial Plan, *Chendebji Stupa*, Bhutan (central), a. 8th C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

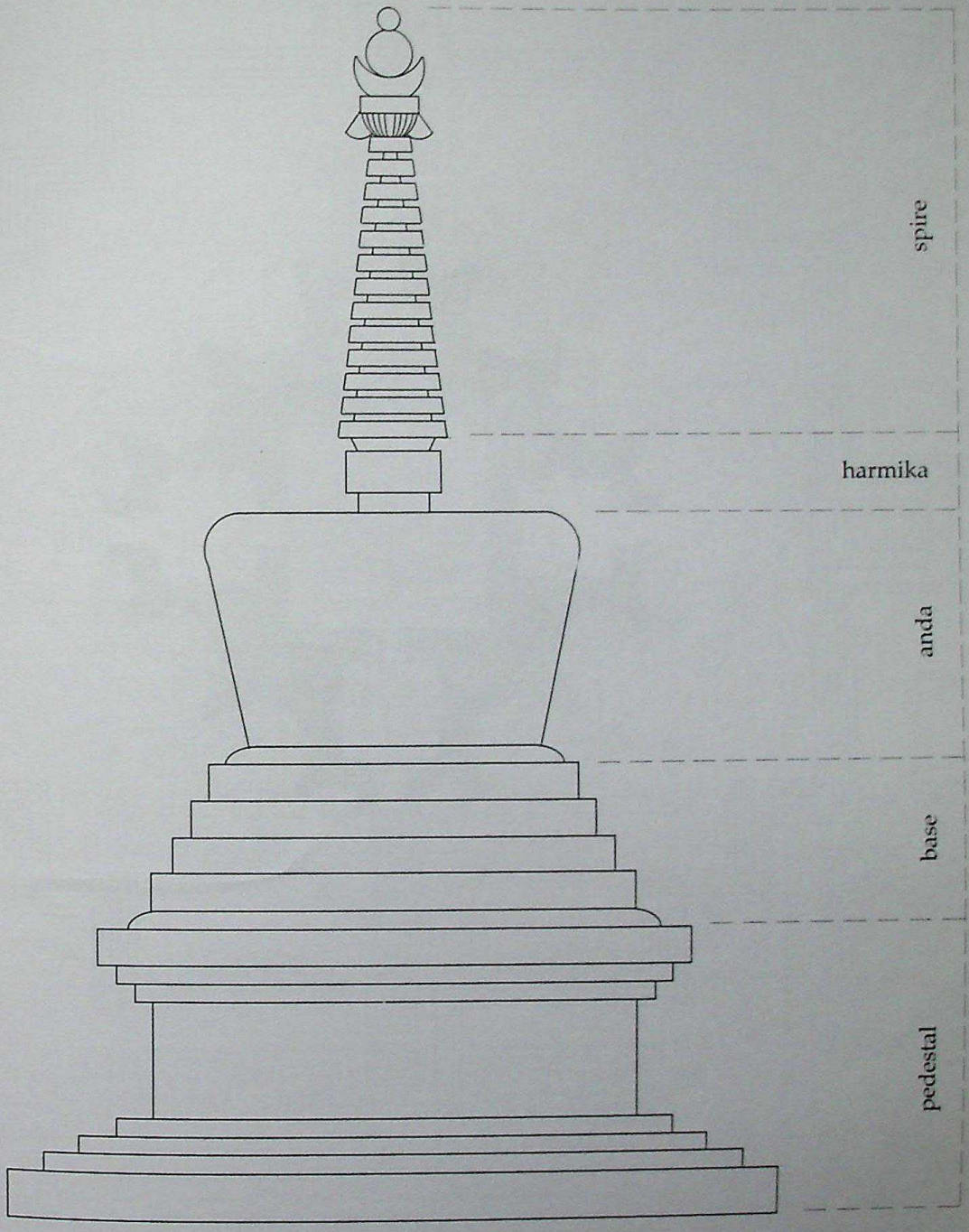
Plate 106 -- Elevation, *Chendebji Stupa*,
Bhutan (central), a. 8th C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

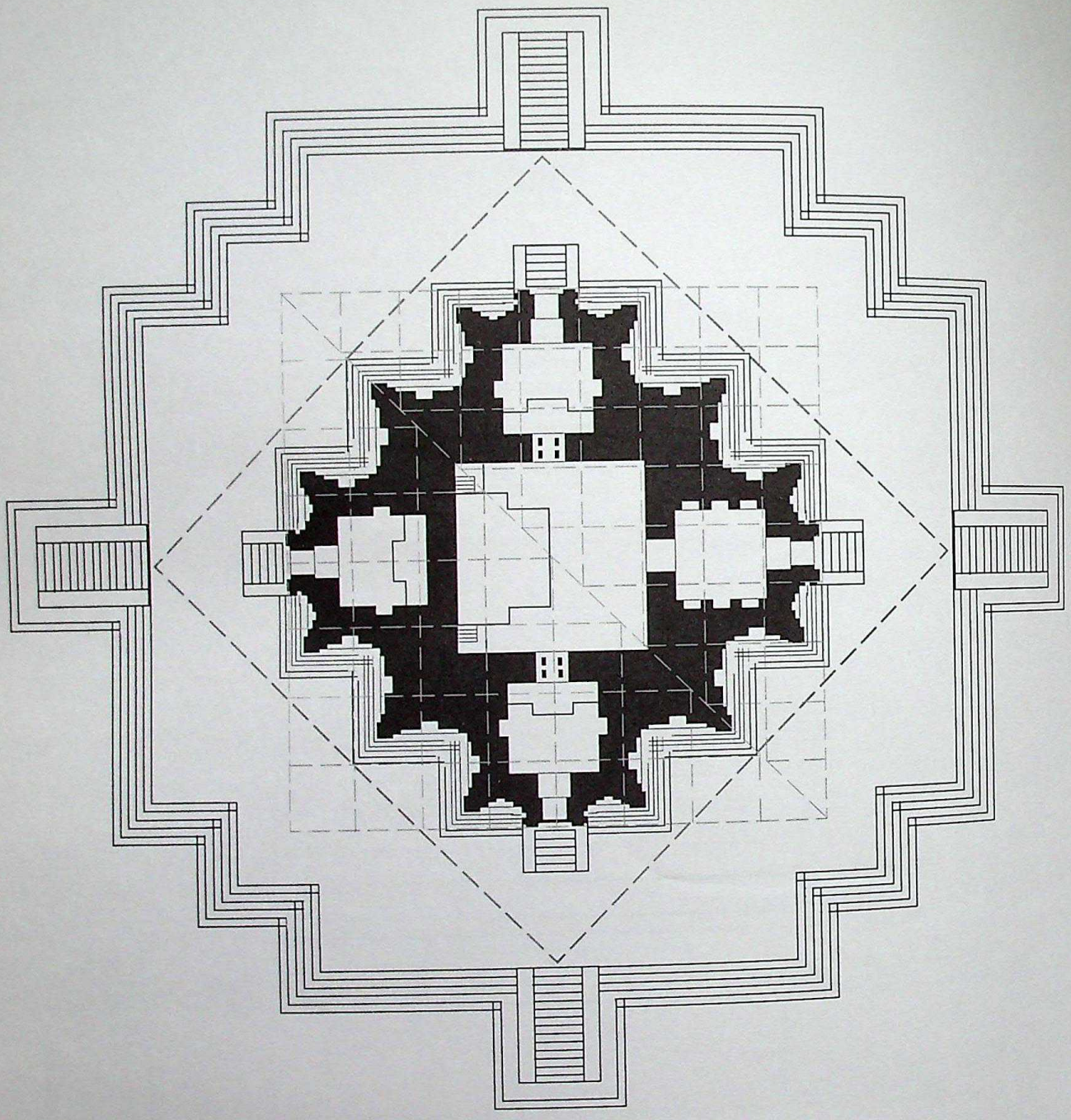
Plate 107 -- Elevation, *Tibetan Chorten* (proportional), Tibet, 18th C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

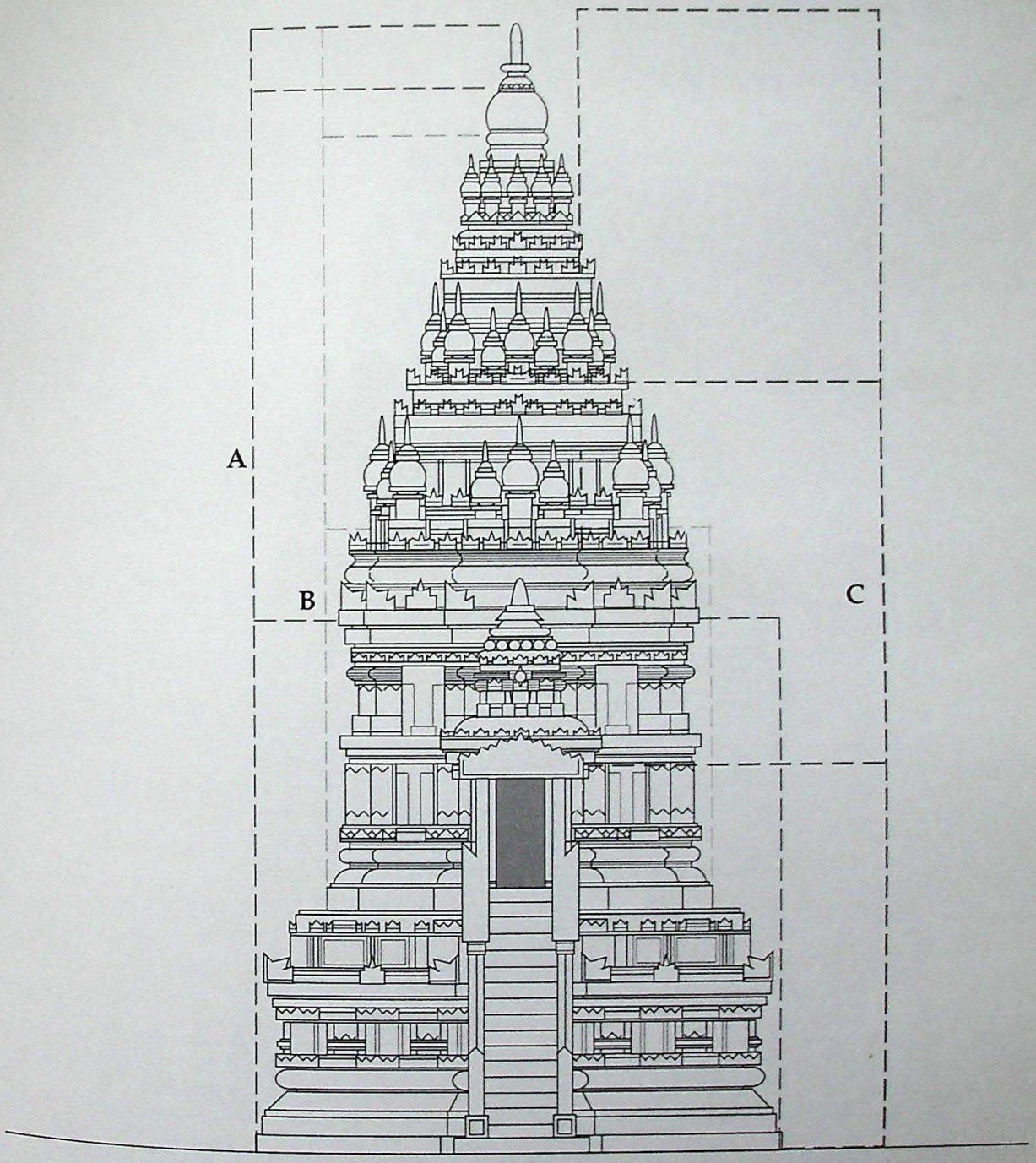
Plate 108 -- Cross Axial Plan, *Chandi Kalasan*, Java, a. 778 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

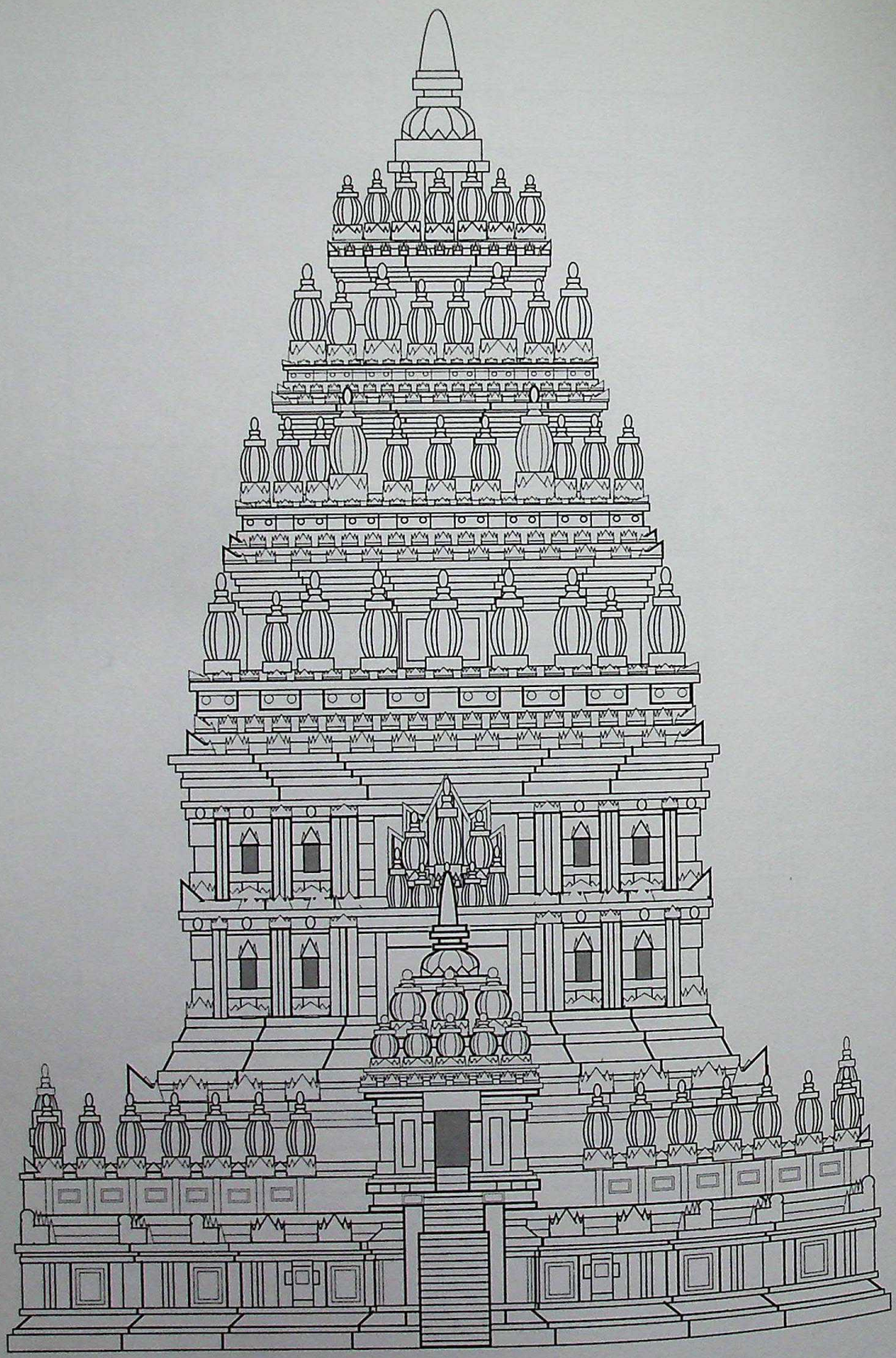
Plate 109 -- Elevation (proportional view), *Chandi Perwara, Loro Jonggrang,* Prambanan, Java



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

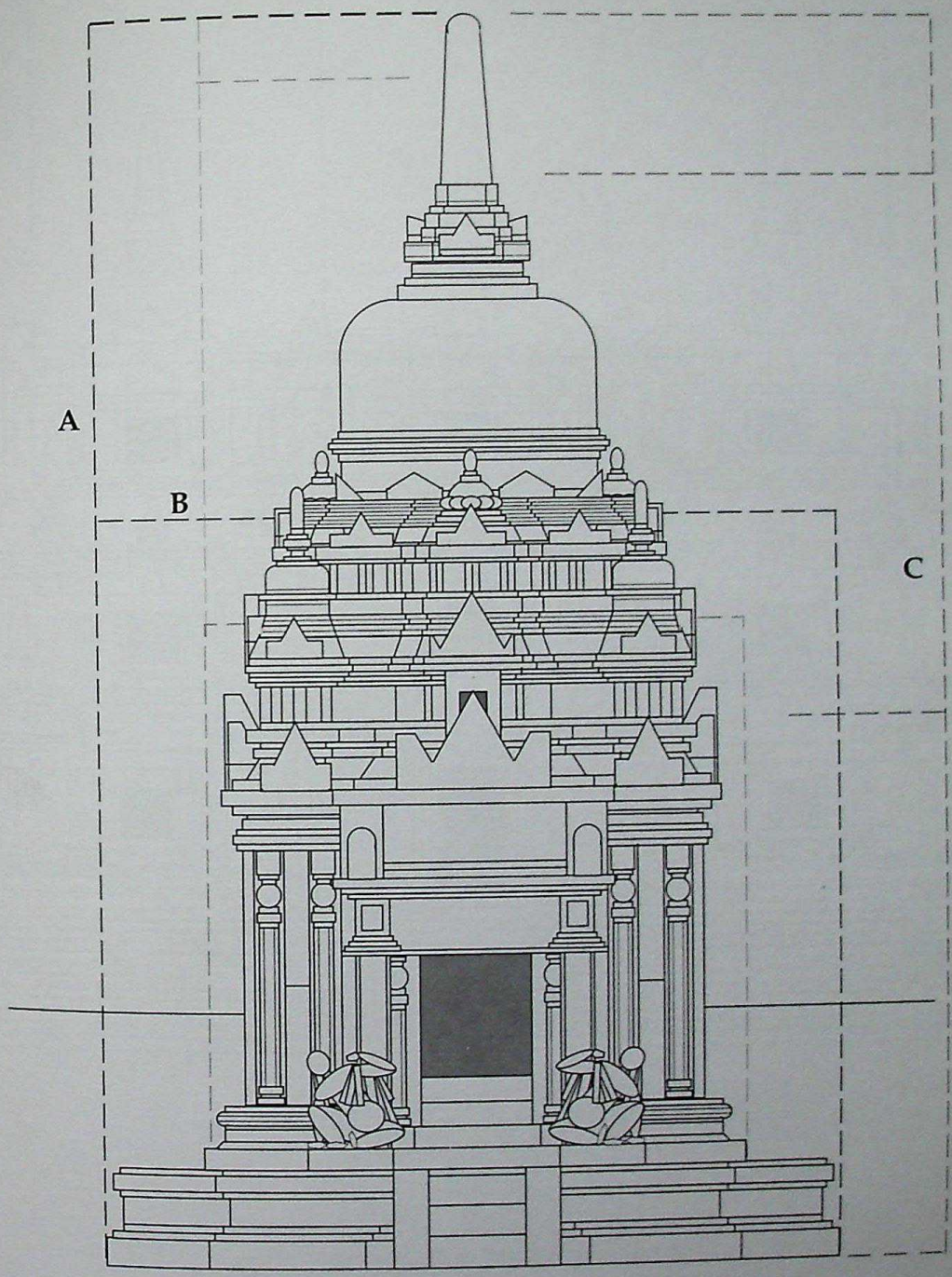
Plate 110 -- Elevation (proportional view), *Chandi Brahná, Loro Jonggrang,* Prambanan, Java



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

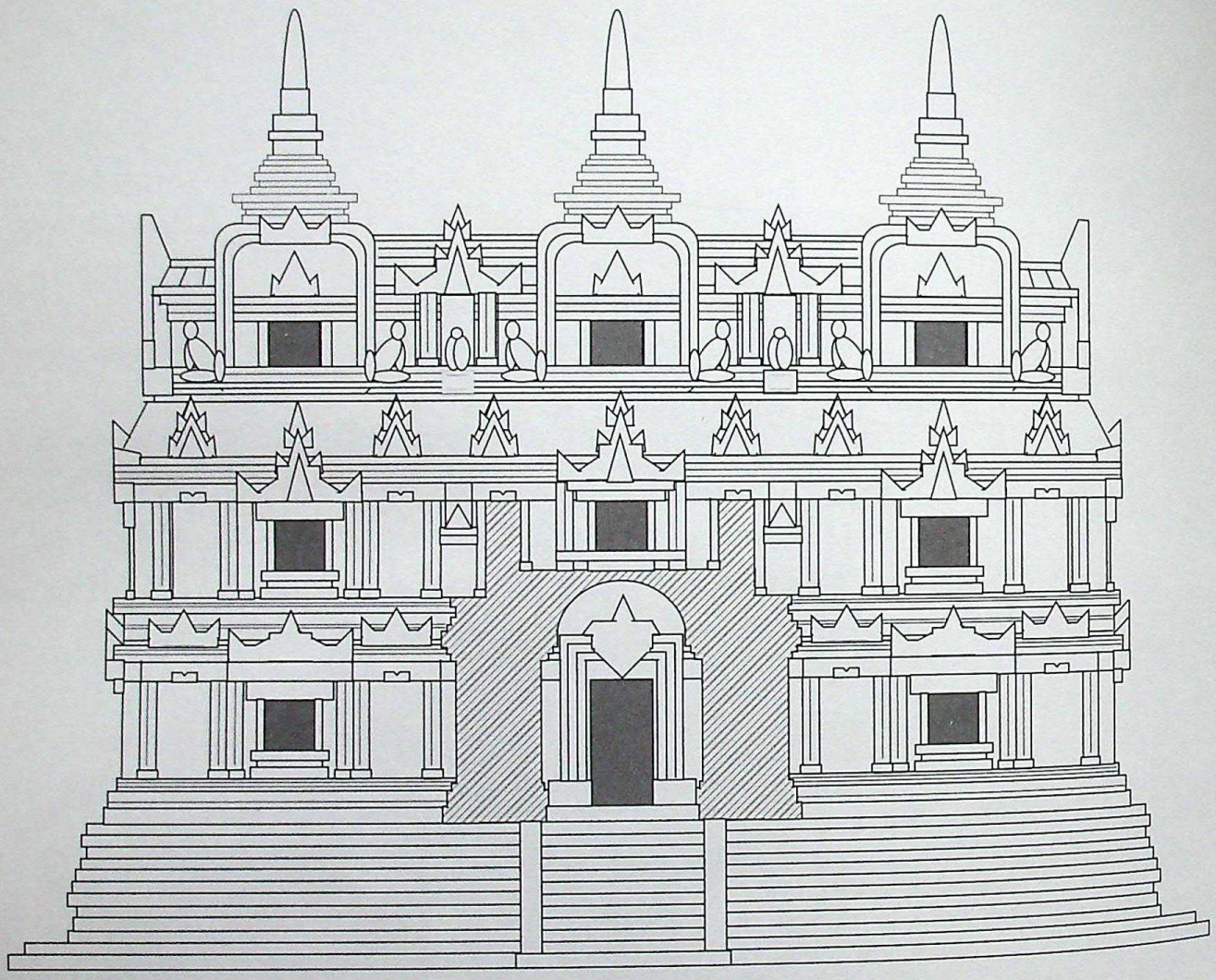
Plate 111 -- Elevation (proportional view), *Chandi Perwara* (first court), *Chandi Sewu*, Prambanan, Java



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

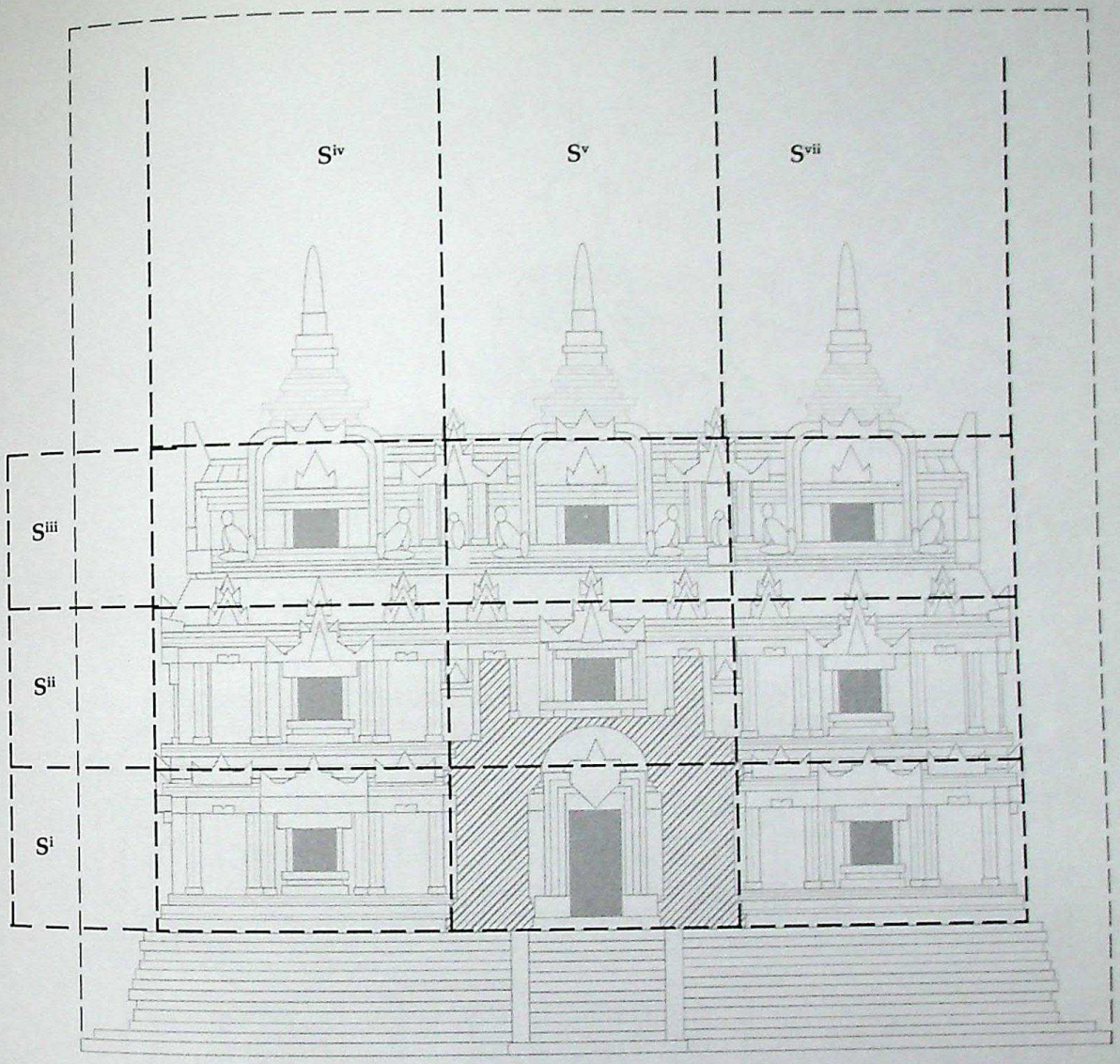
Plate 112 -- Elevation (proportional view), *Chandi Sari,* Prambanan, Java (1st half 9th C.)

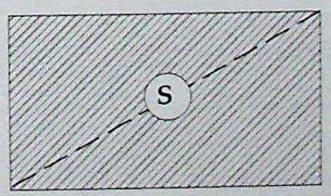


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 113 -- Elevation (proportional view), Indicating the 30° Standard, *Chandi Sari,* Prambanan, Java (1st half 9th C.)



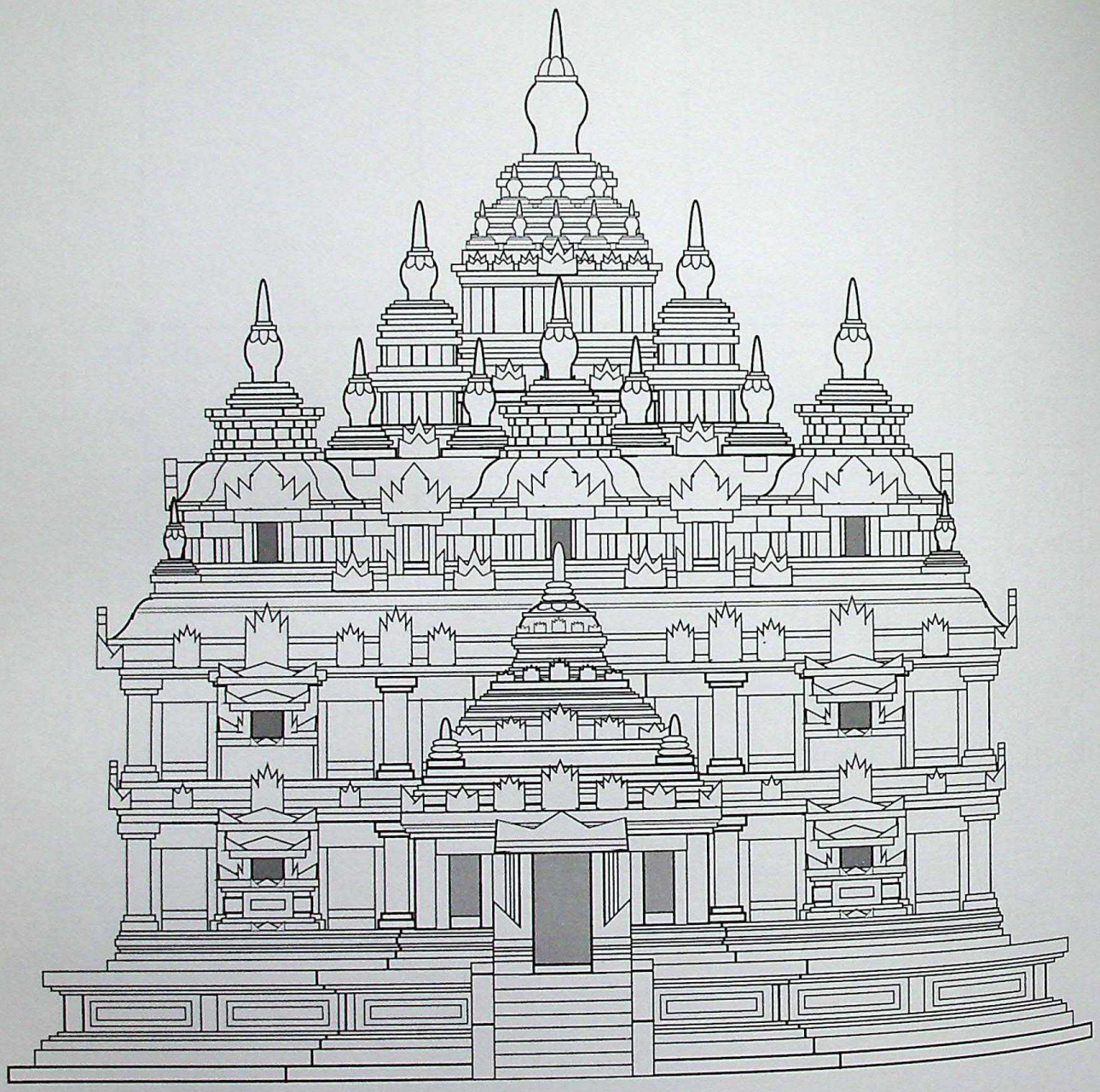


The "Standard" (S) as noted on pp. 116-119.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

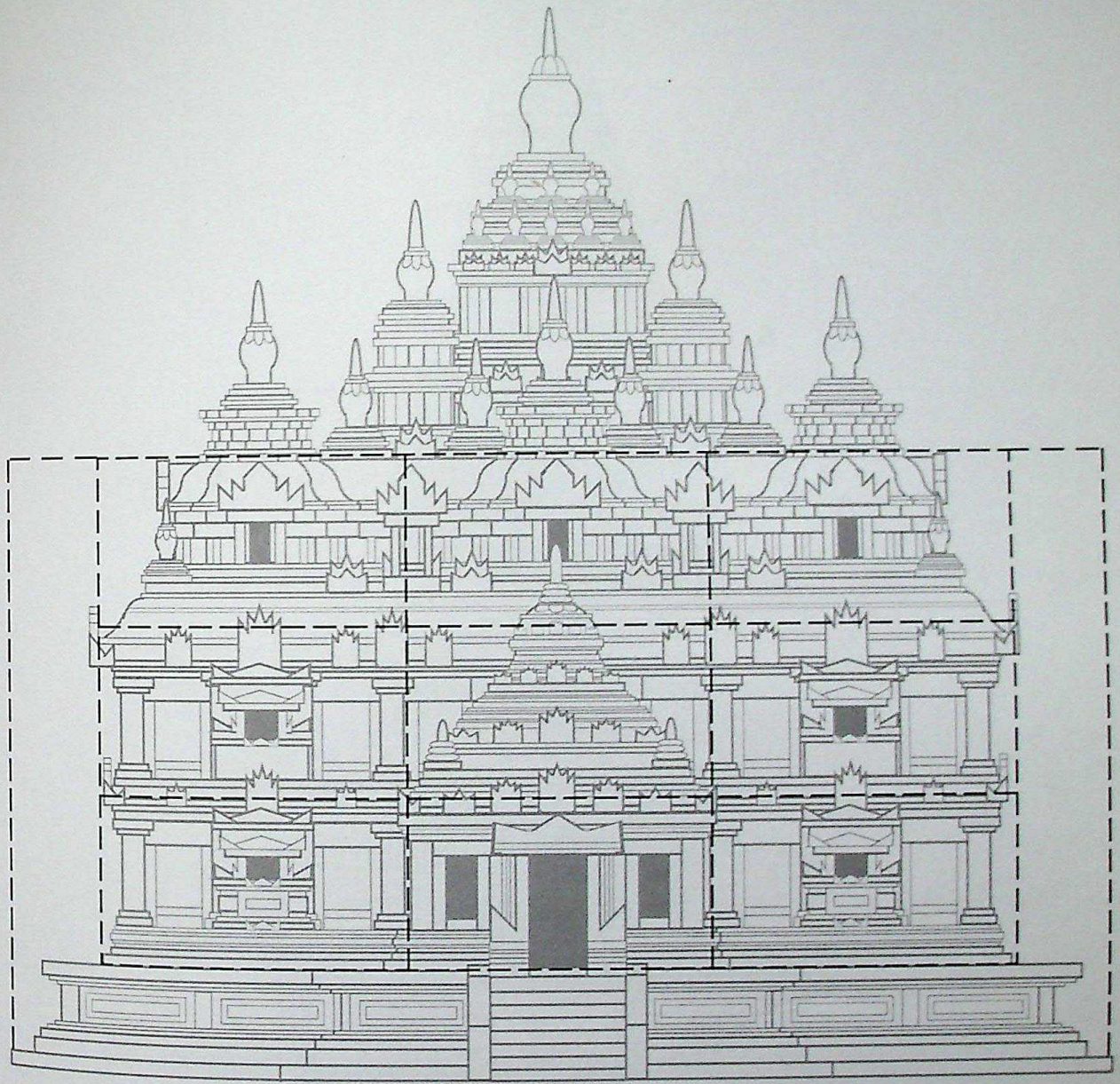
Plate 114 -- Elevation (proportional view), *Chandi Plaosan Lor*, Prambanan, Java (c. 825-850)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

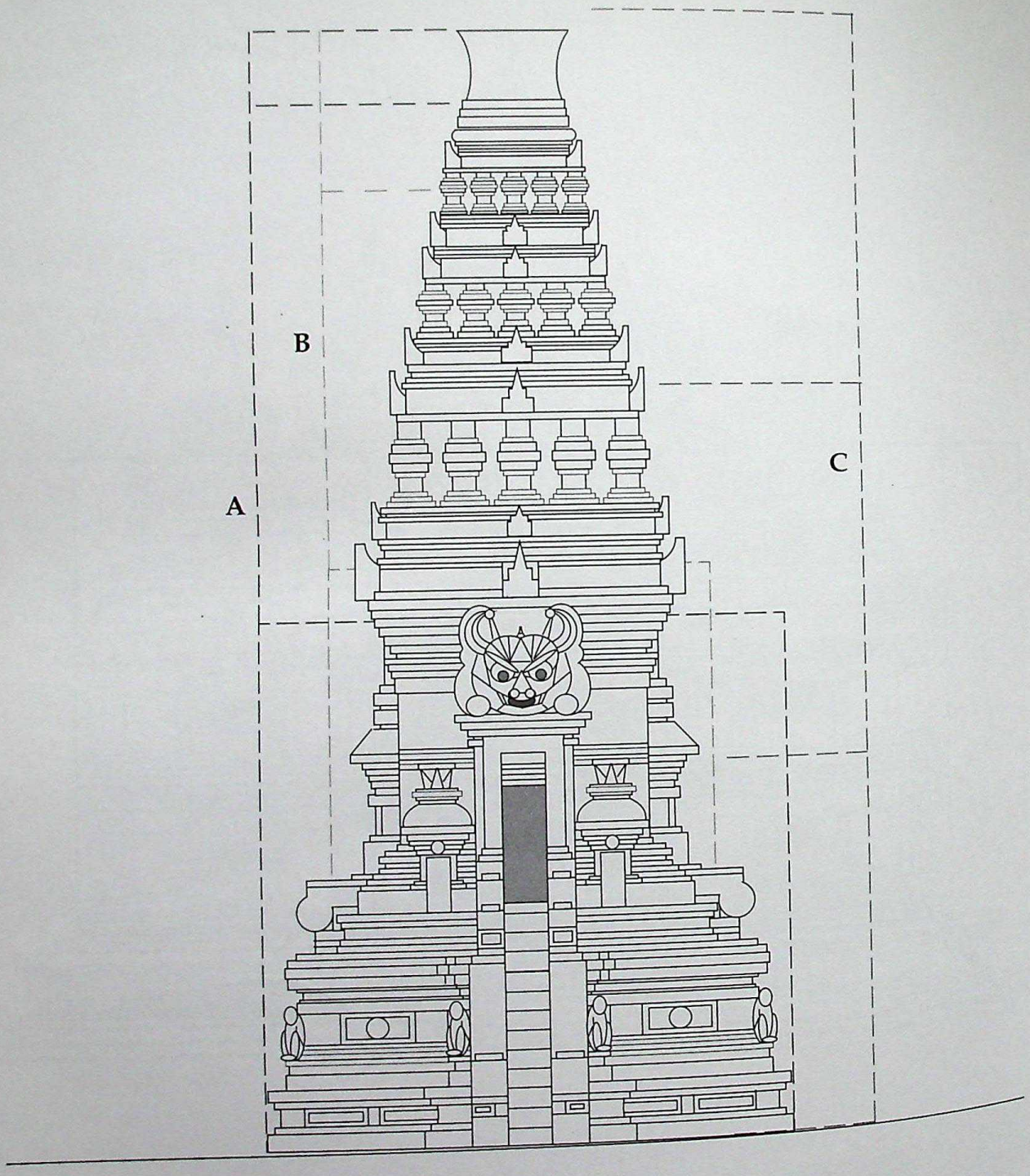
Plate 115 -- Elevation (proportional view), Indicating the 30° Standard, *Chandi Plaosan Lor,* Prambanan, Java (c. 825-850)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

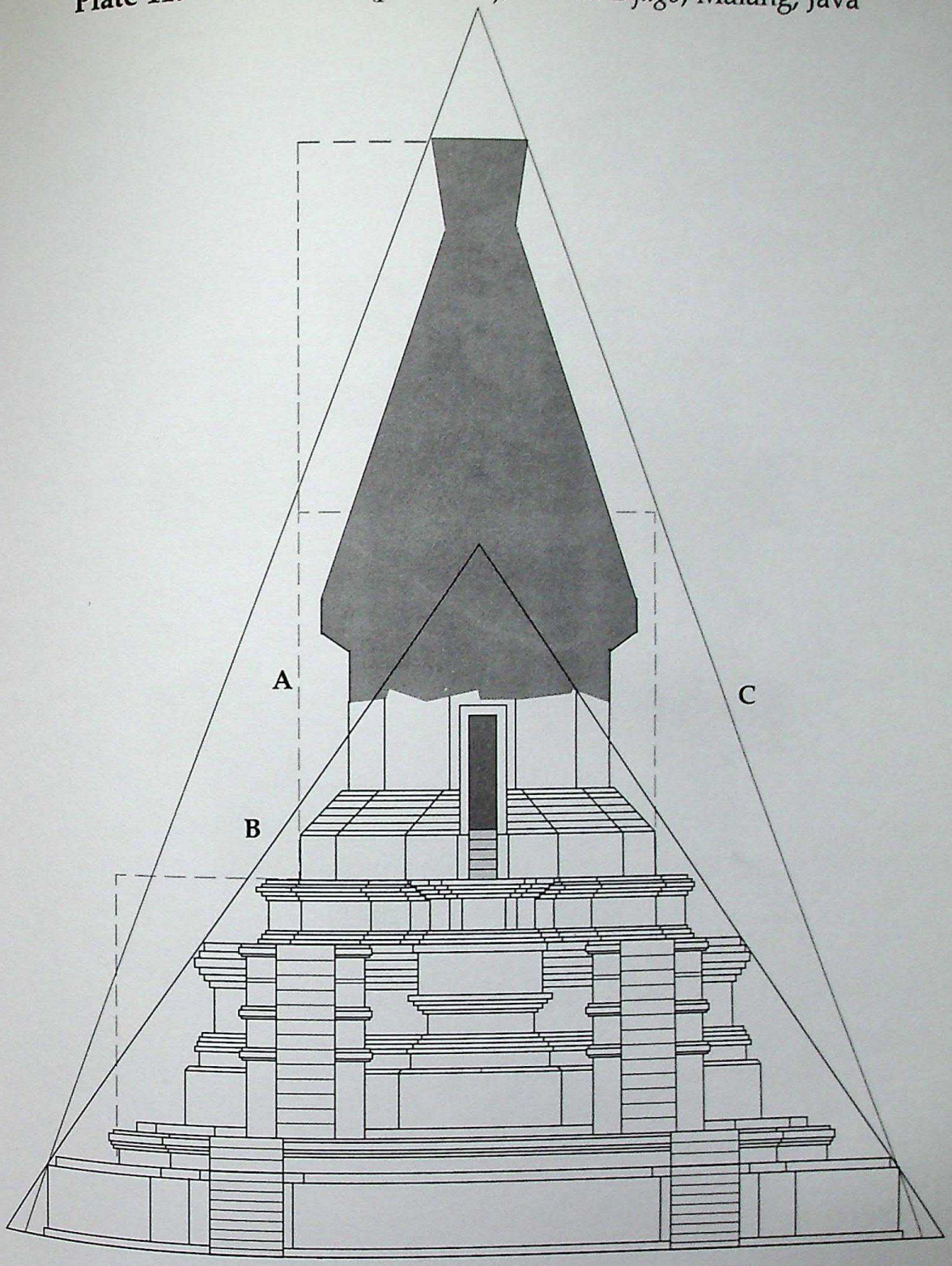
Plate 116 -- Elevation (proportional view), *Chandi Kidal*, Malang, Java



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

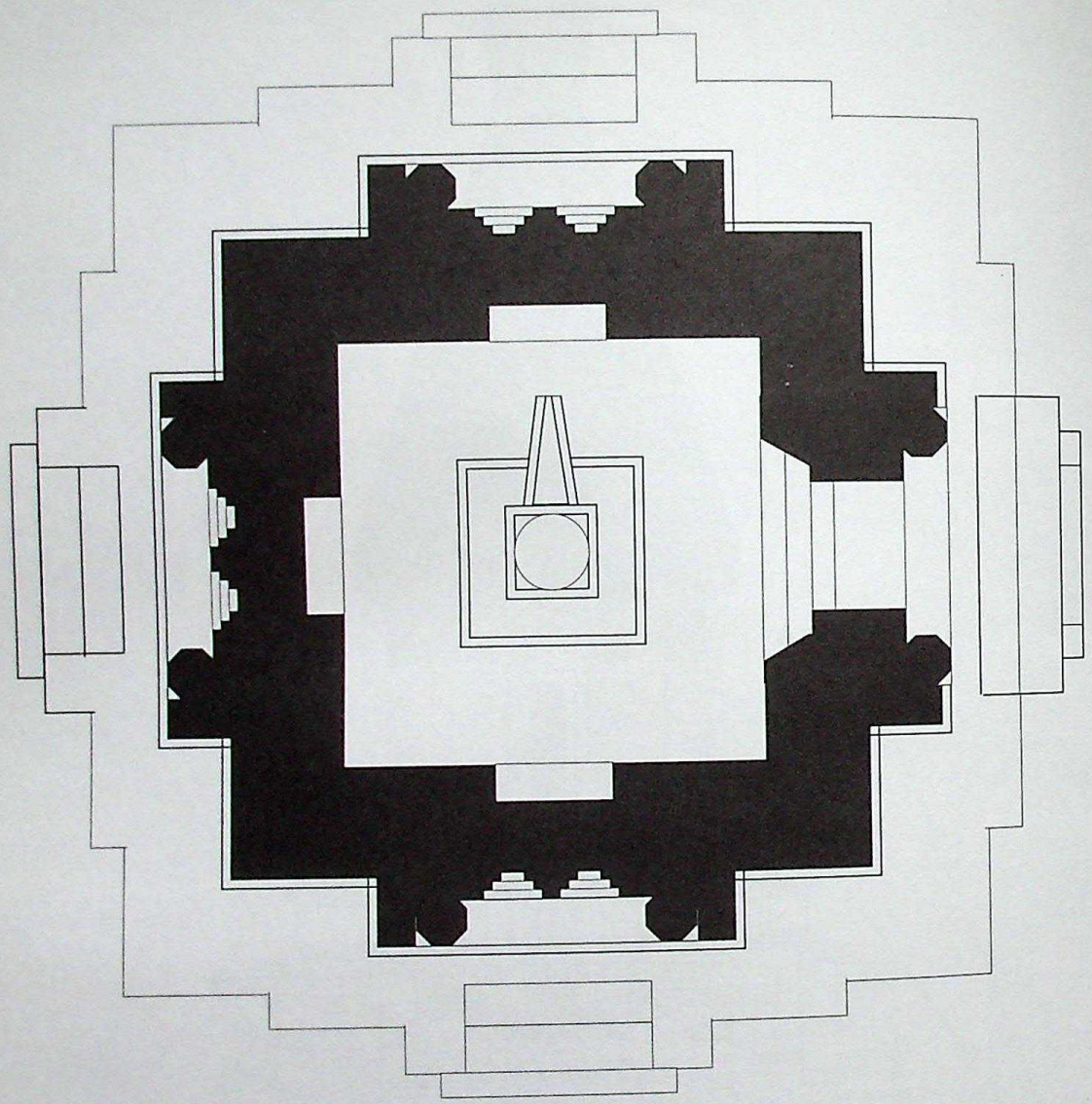
Plate 117 -- Elevation (probable), *Chandi Djago*, Malang, Java



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

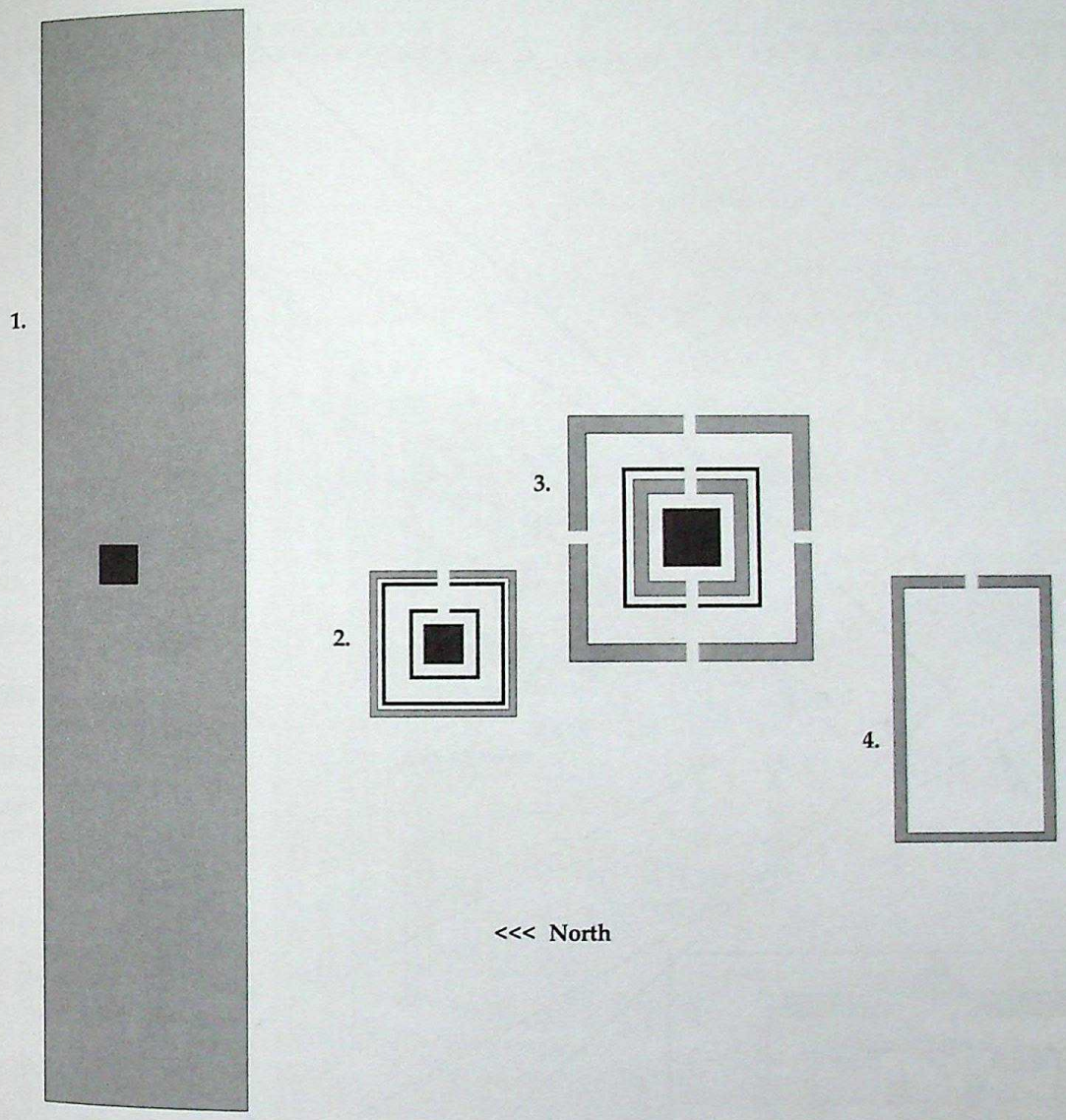
Plate 118 -- Axial Plan, Shrine, *Preah Ko*, Roluos, a. 879 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 119 -- Plan (indicating major monuments), *Roluos* (Hariharalaya)

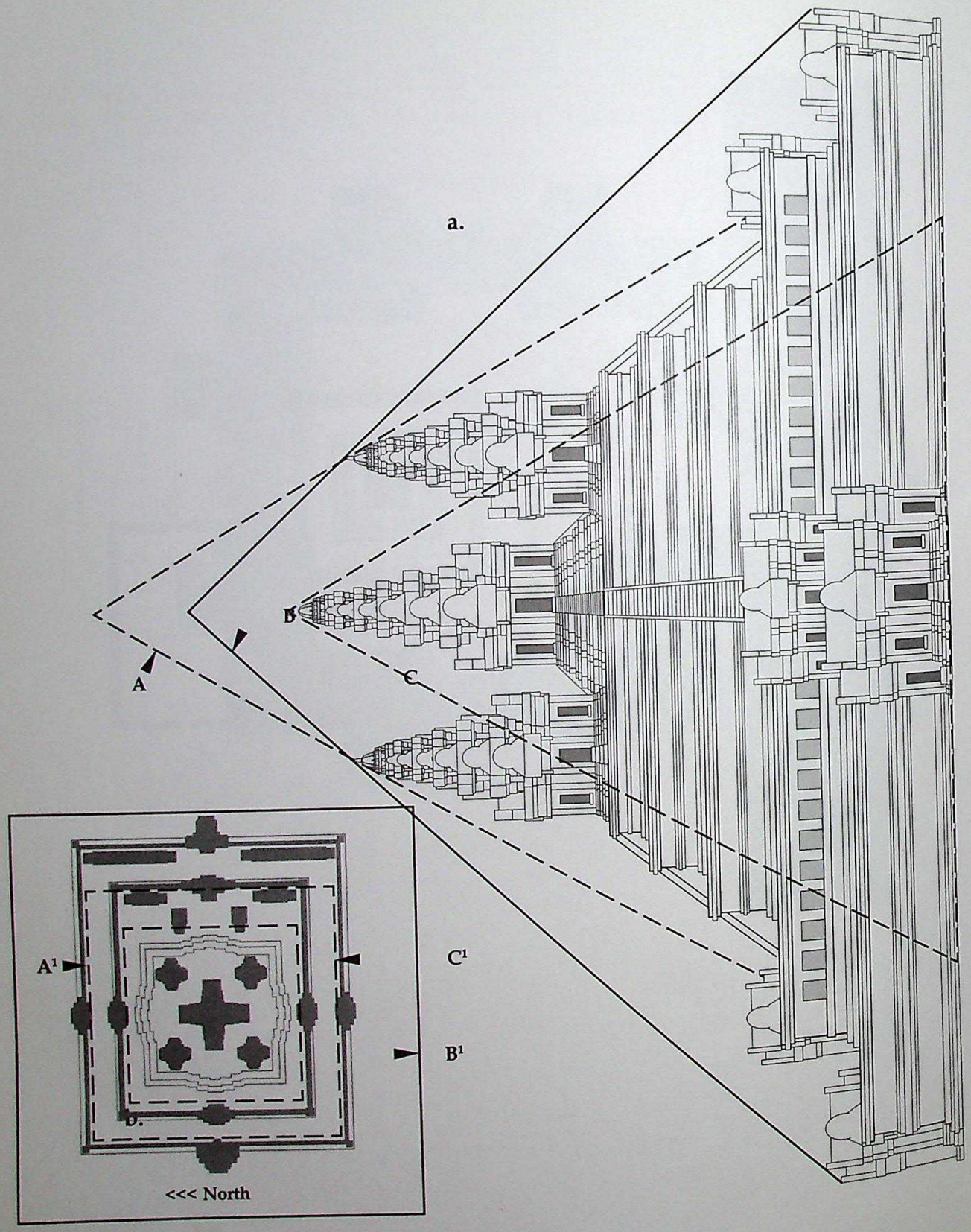


1. Lolei
2. Preah Ko
3. Bakong
4. Prei Monti

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

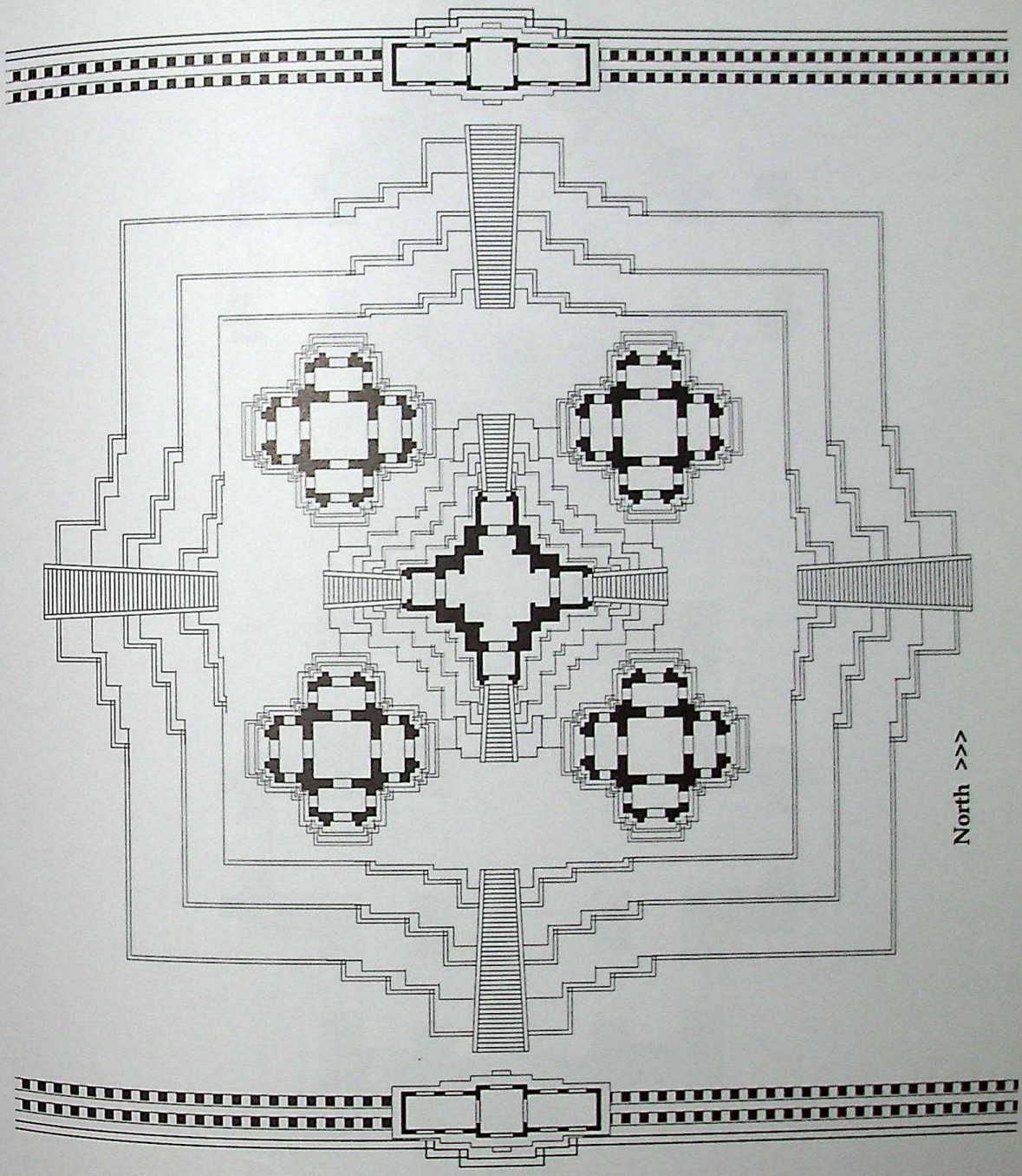
Plate 120 -- a.: Elevation (proportional) & b.: ensemble plan, *Ta Keo*, Angkor



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

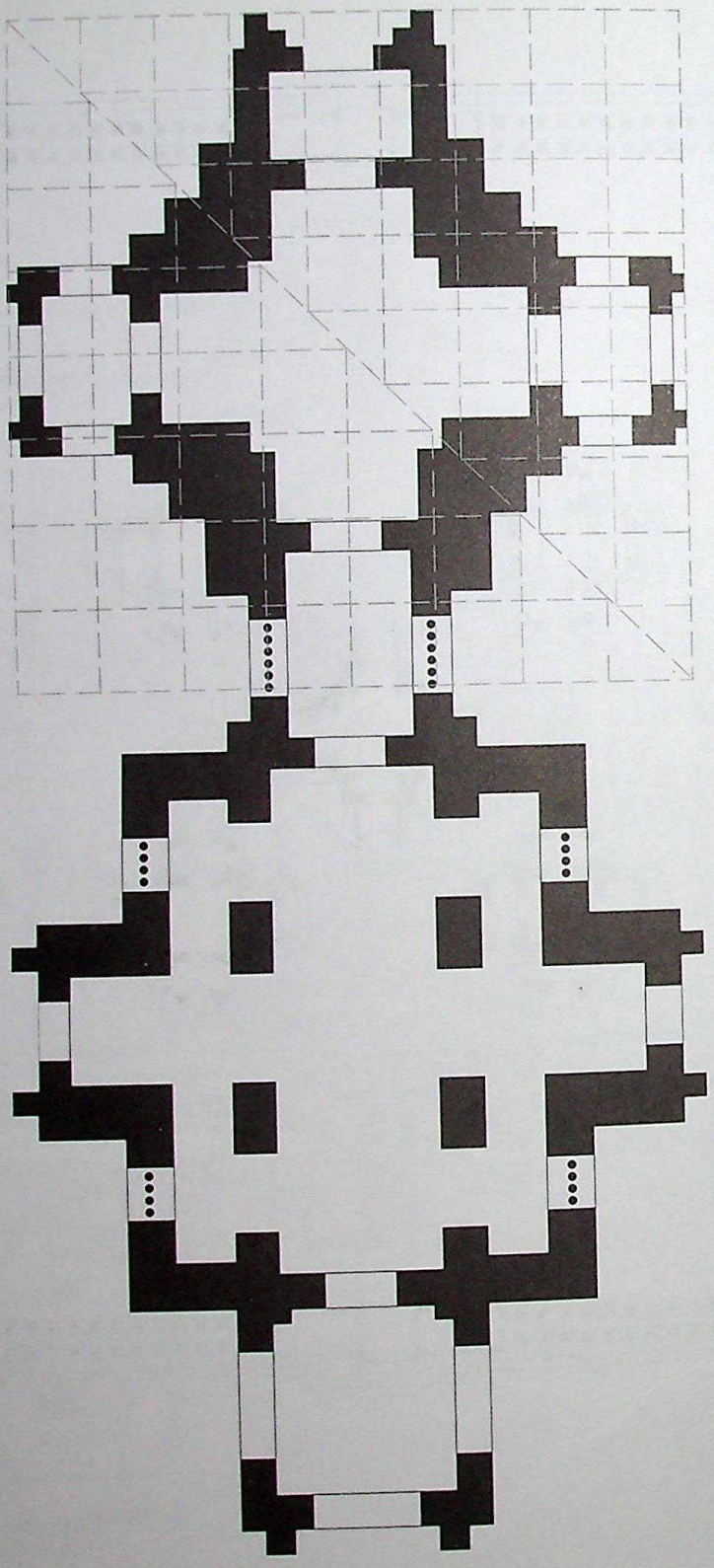
Plate 121 -- Plan, *Ta Keo* Mount Ensemble



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 122 -- Axial Plan, *Wat Ek* (Central Shrine), Battambang, 11th C. CE

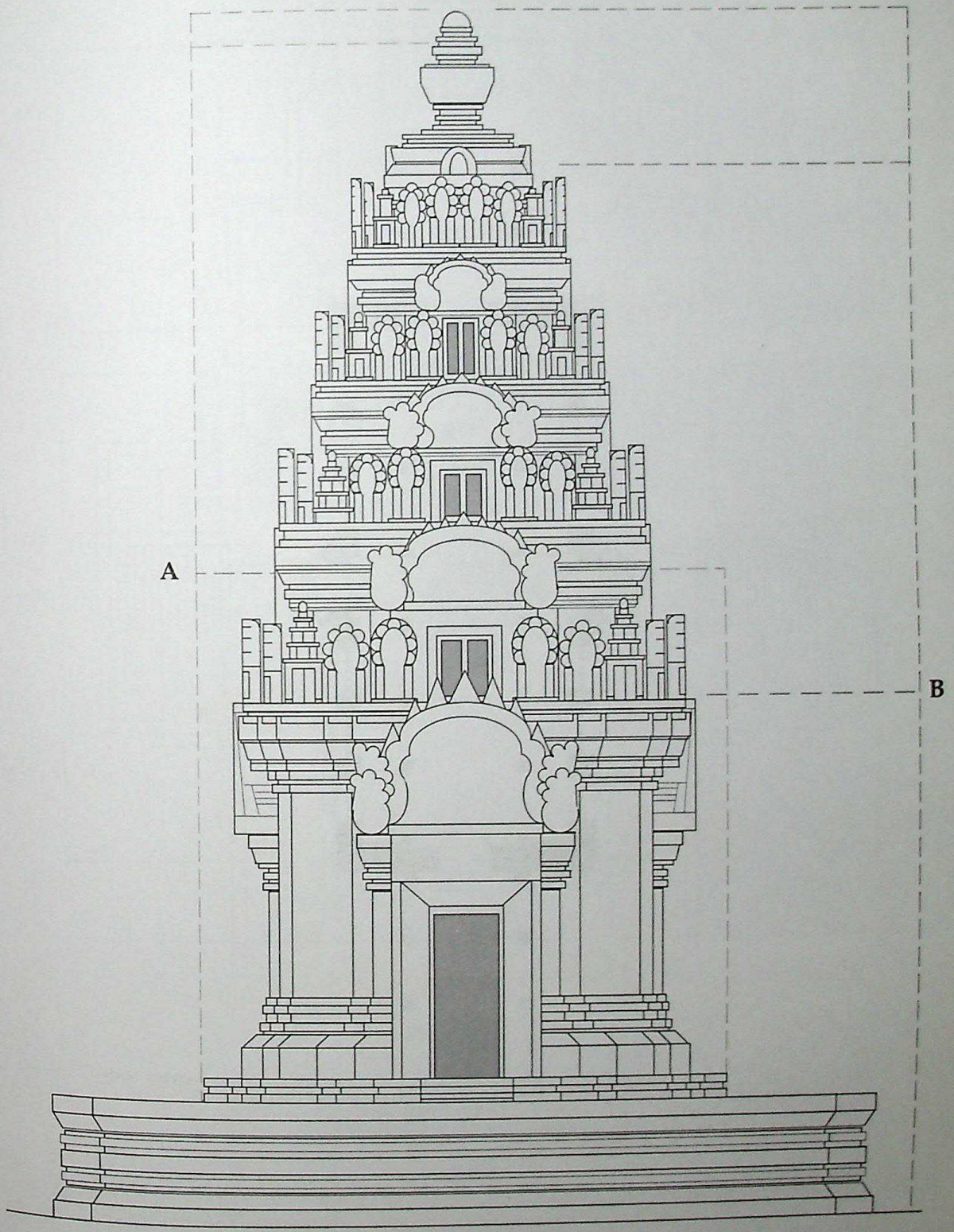


North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

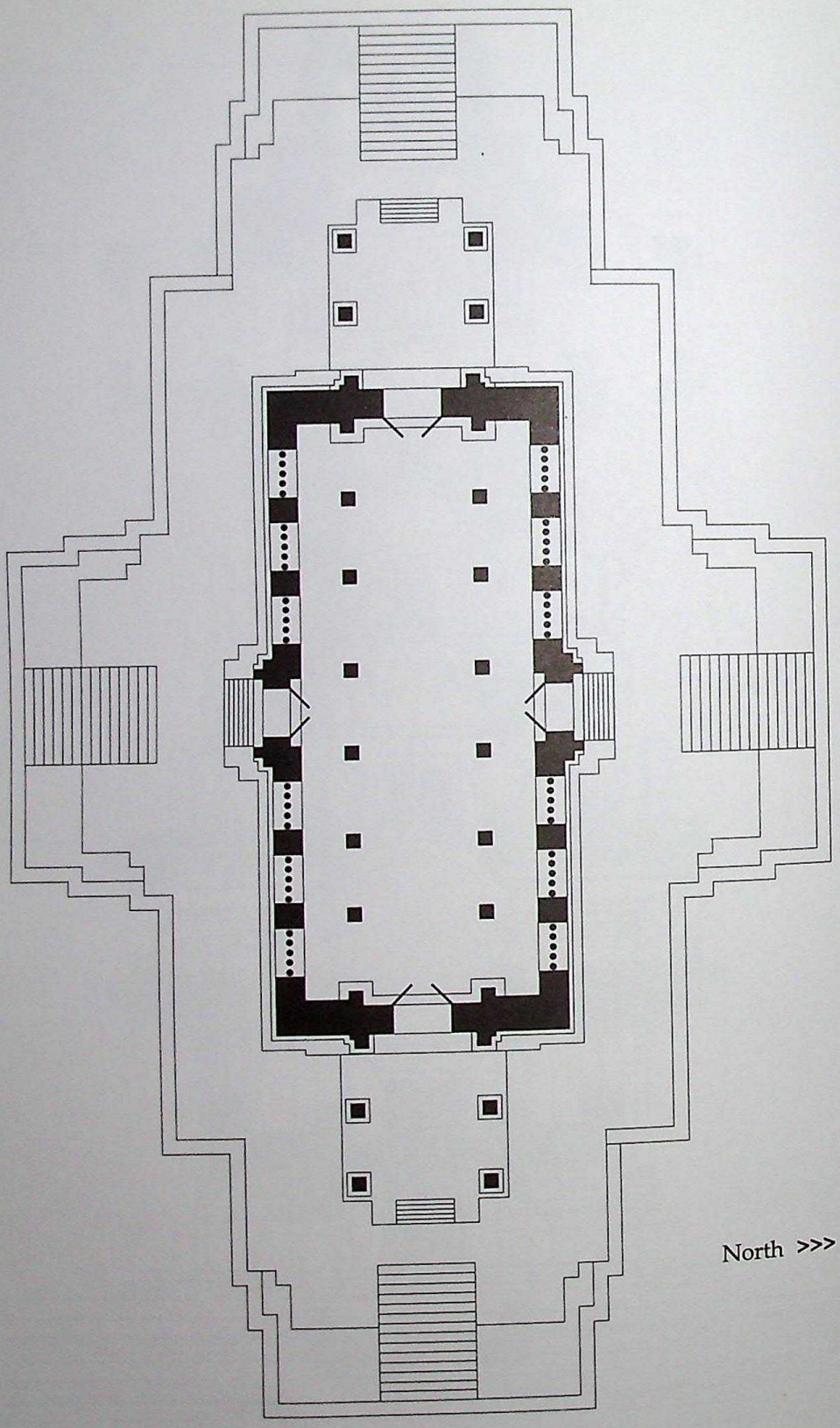
Plate 123 -- Elevation, *Banteay Srei*, Southern Shrine (proportional), Angkor, 10th C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

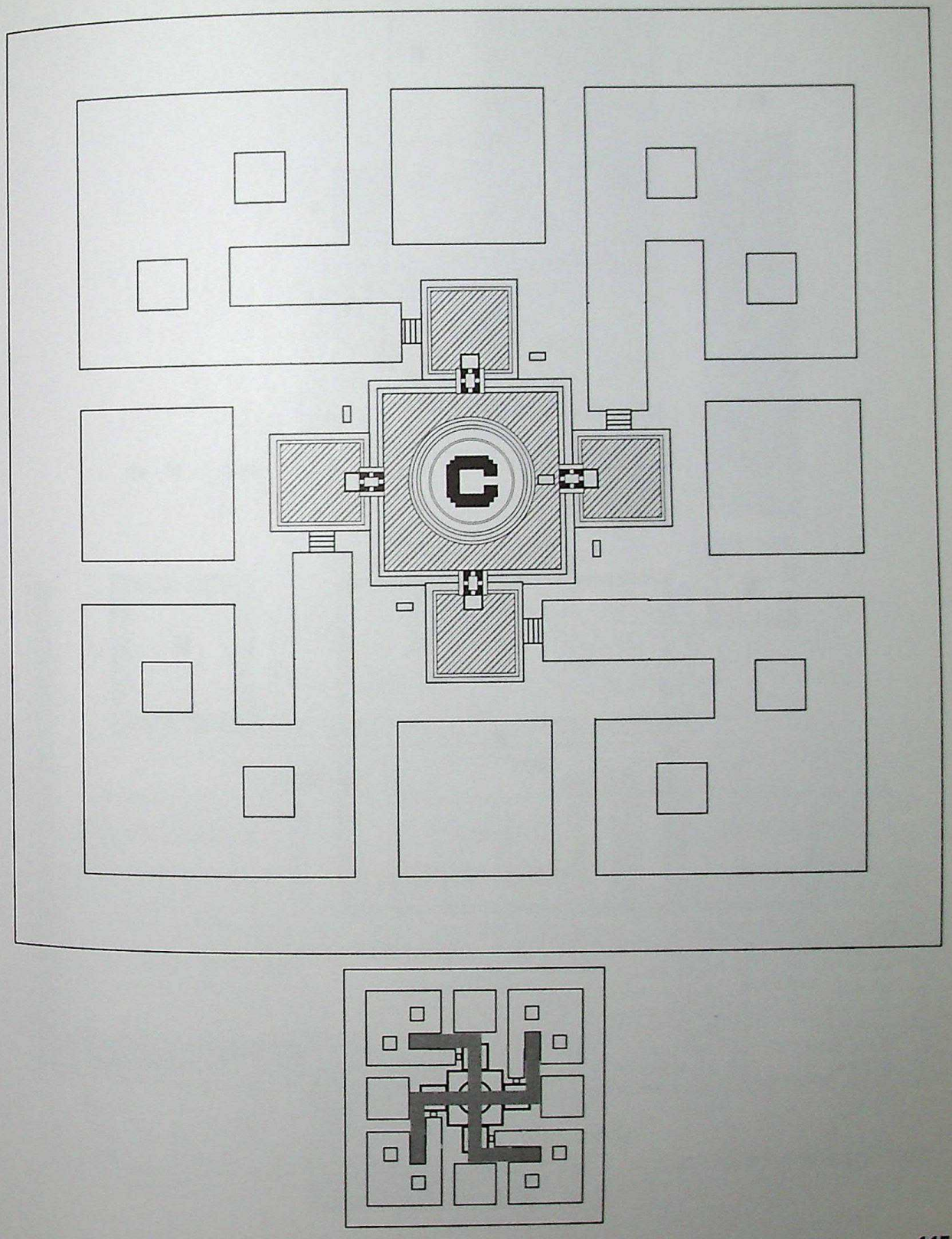
Plate 124 -- Axial-Plan, Northwest Library, *Angkor Wat*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

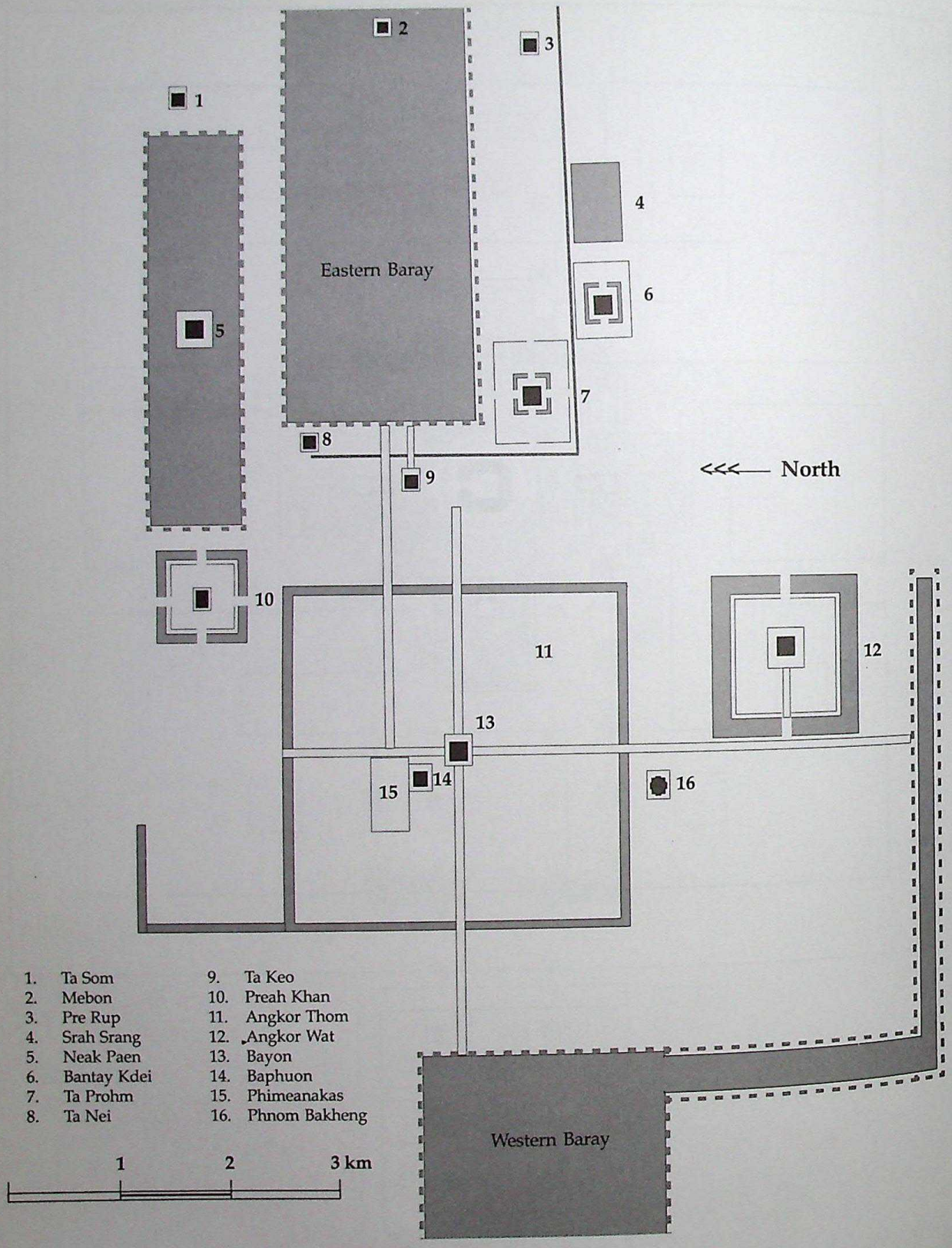
Plate 125 – Cross-Axial Plan, *Neak Pean*, Angkor



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 126 -- Plan (indicating major monuments), *Angkor*



1. Ta Som
2. Mebon
3. Pre Rup
4. Srah Srang
5. Neak Paen
6. Bantay Kdei
7. Ta Prohm
8. Ta Nei
9. Ta Keo
10. Preah Khan
11. Angkor Thom
12. Angkor Wat
13. Bayon
14. Baphuon
15. Phimeanakas
16. Phnom Bakheng

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

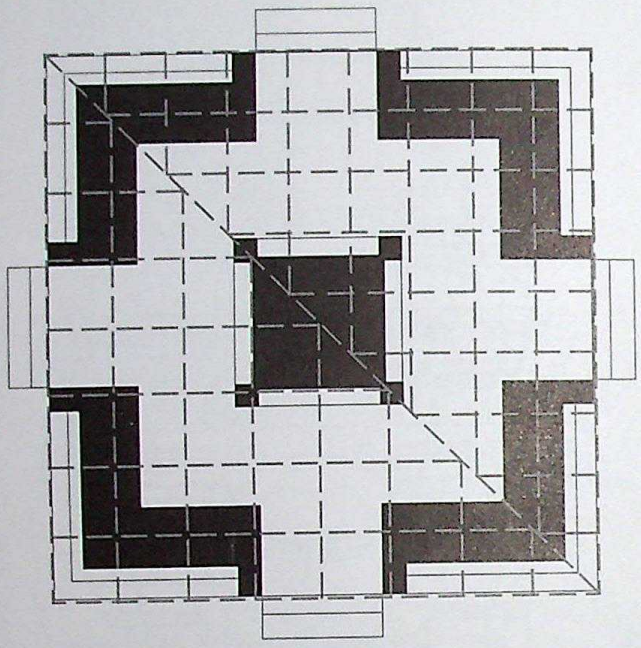
Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 127 -- Elevation (reconstruction of the *shikaras* of the central shrine), *Bayon,* Angkor

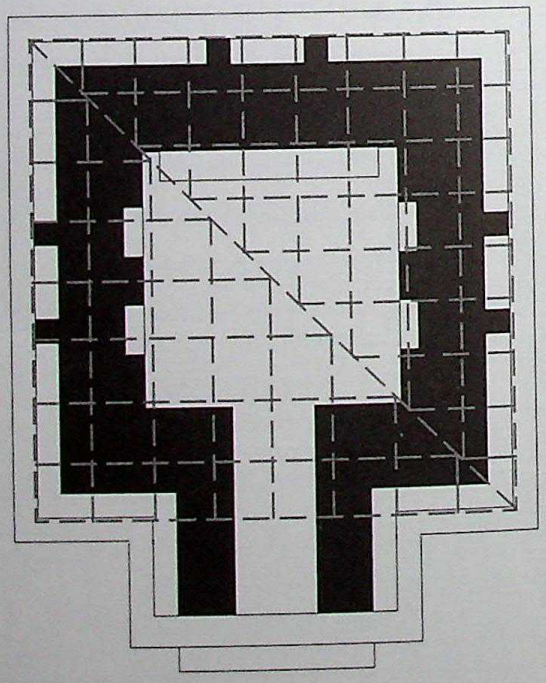
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 128 -- Cross Axia, & Axial Plans, Pyu Shrines:
a. *Lemyethna,* Shri Kshetra (9th C CE);
b. *Bebe* Temple, Shri Kshetra (9th C CE)



a.

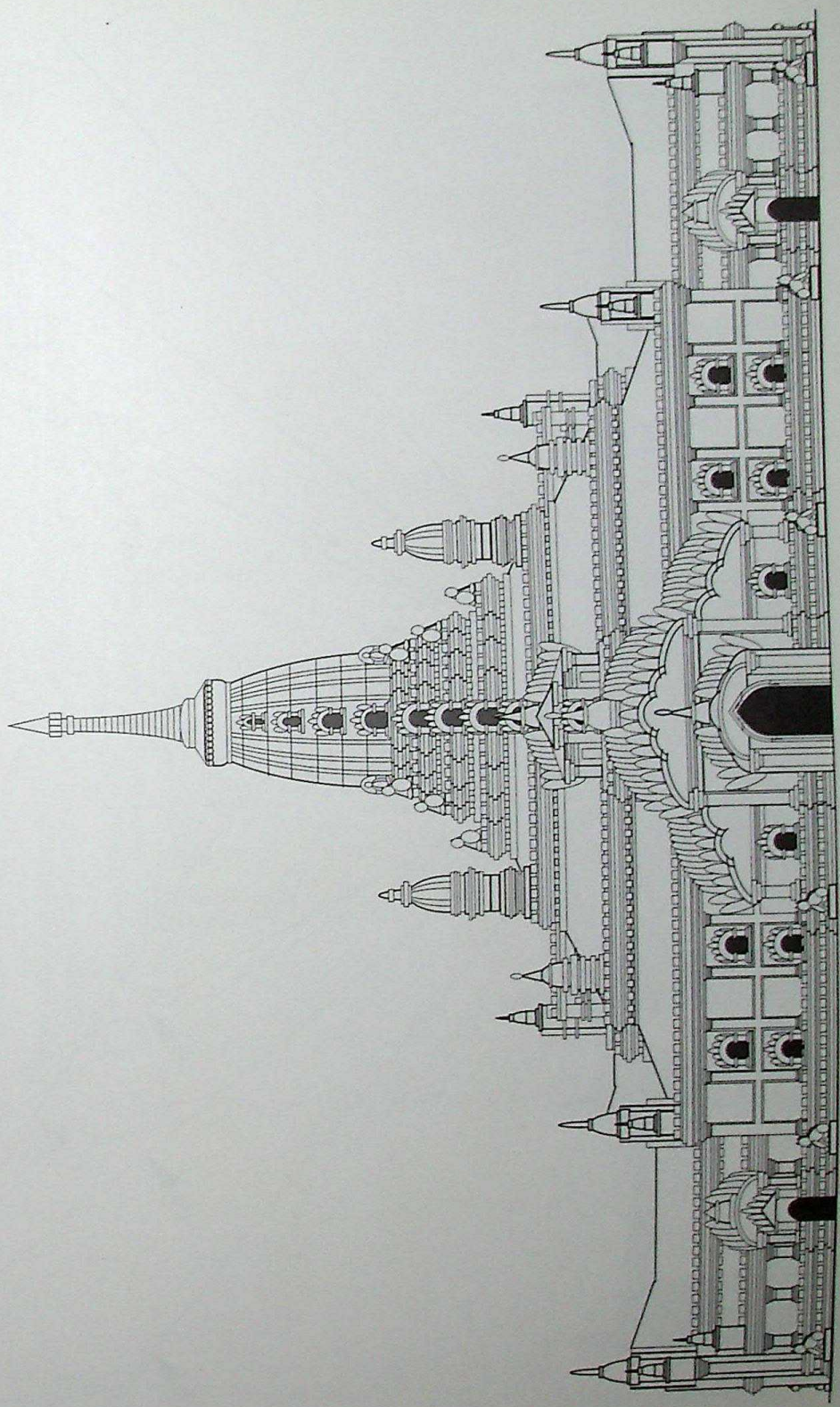


b.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

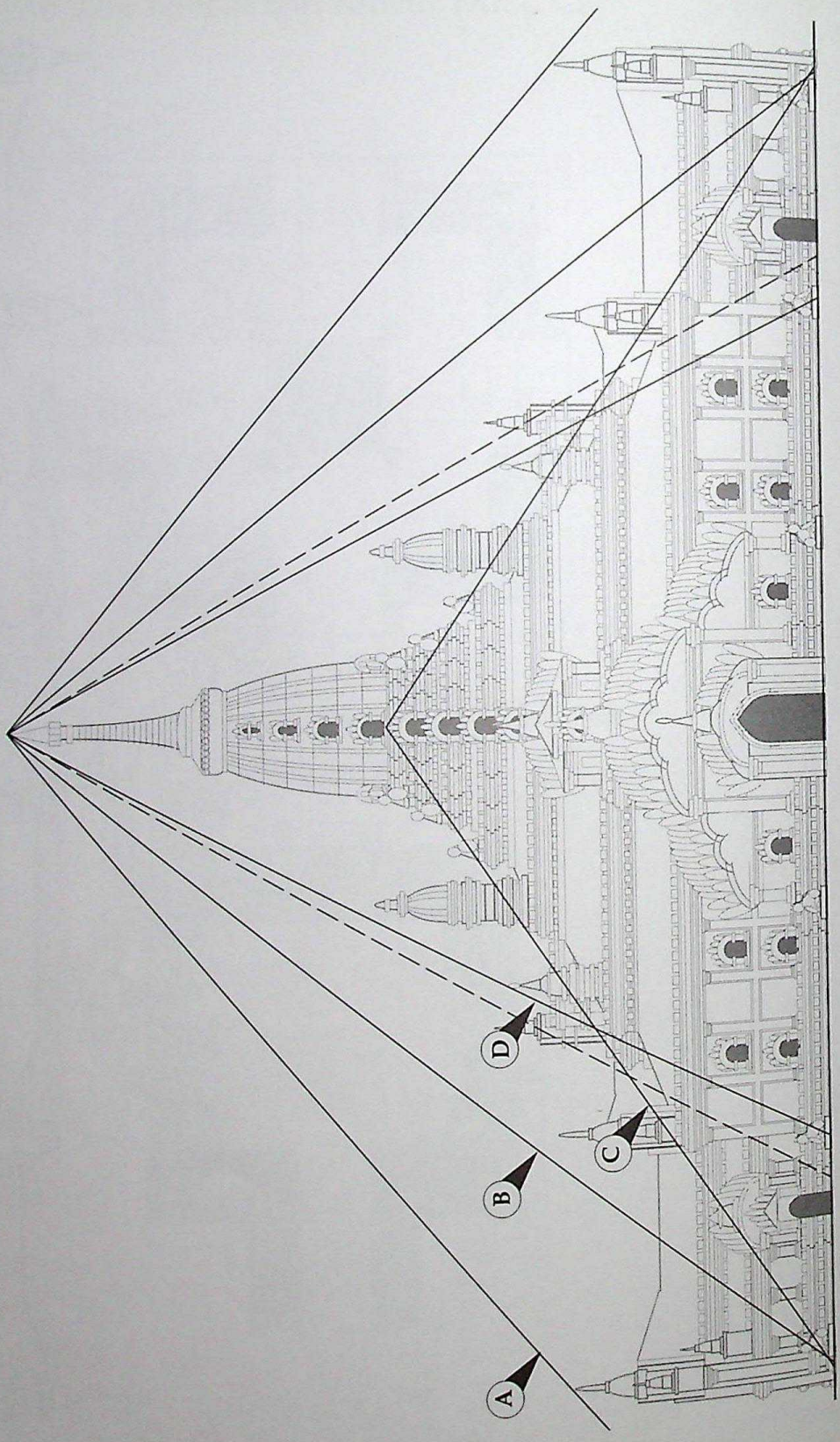
Plate 129 -- Elevation (proportional), *Ananda*, Pagan, a. 1105 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 130 -- Elevation (proportional, indicating triangular composition), *Ananda*, Pagan, a. 1105 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

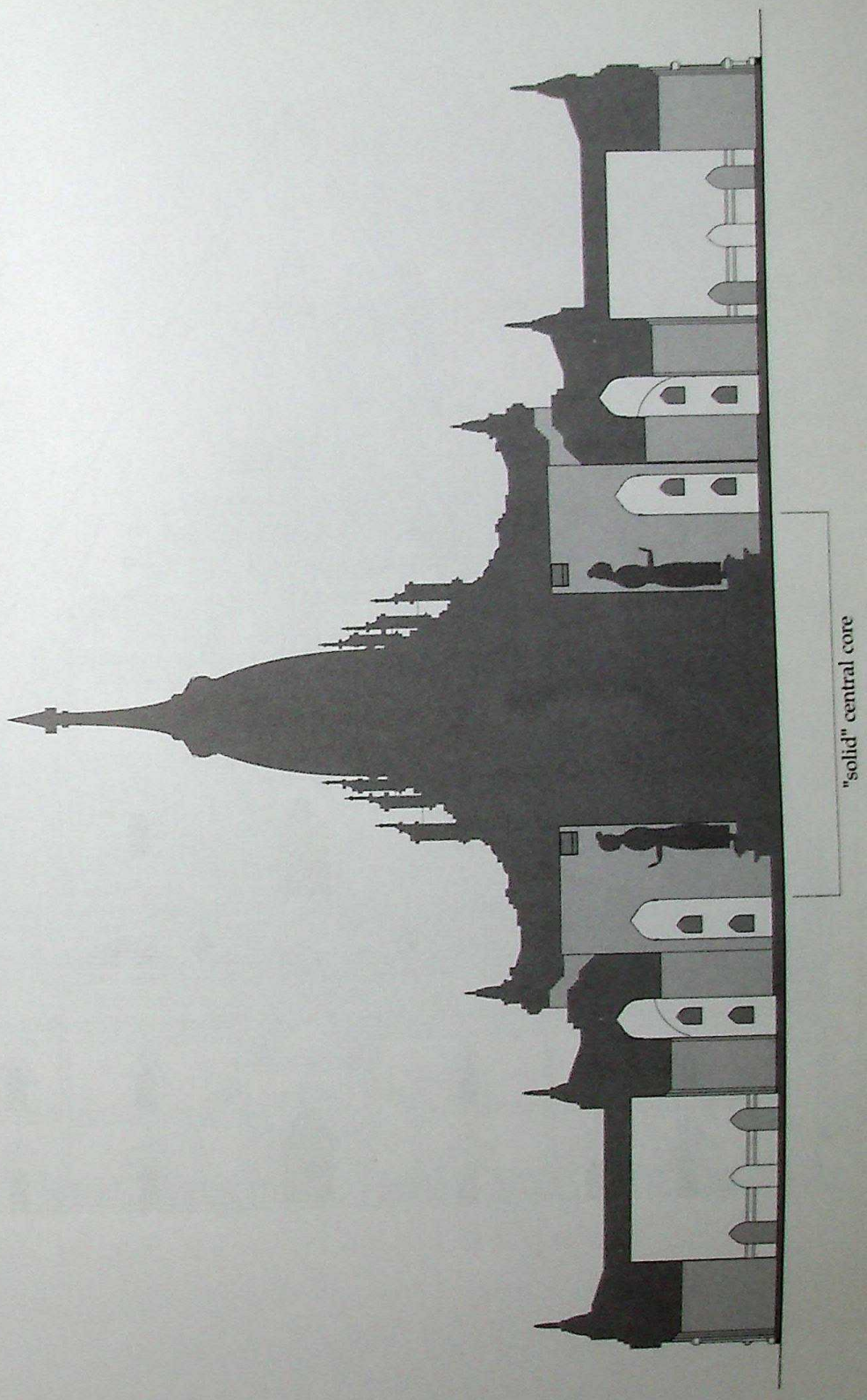
Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 131 -- Section (proportional), *Ananda*, Pagan, a. 1105 CE

= open spaces

= passageways

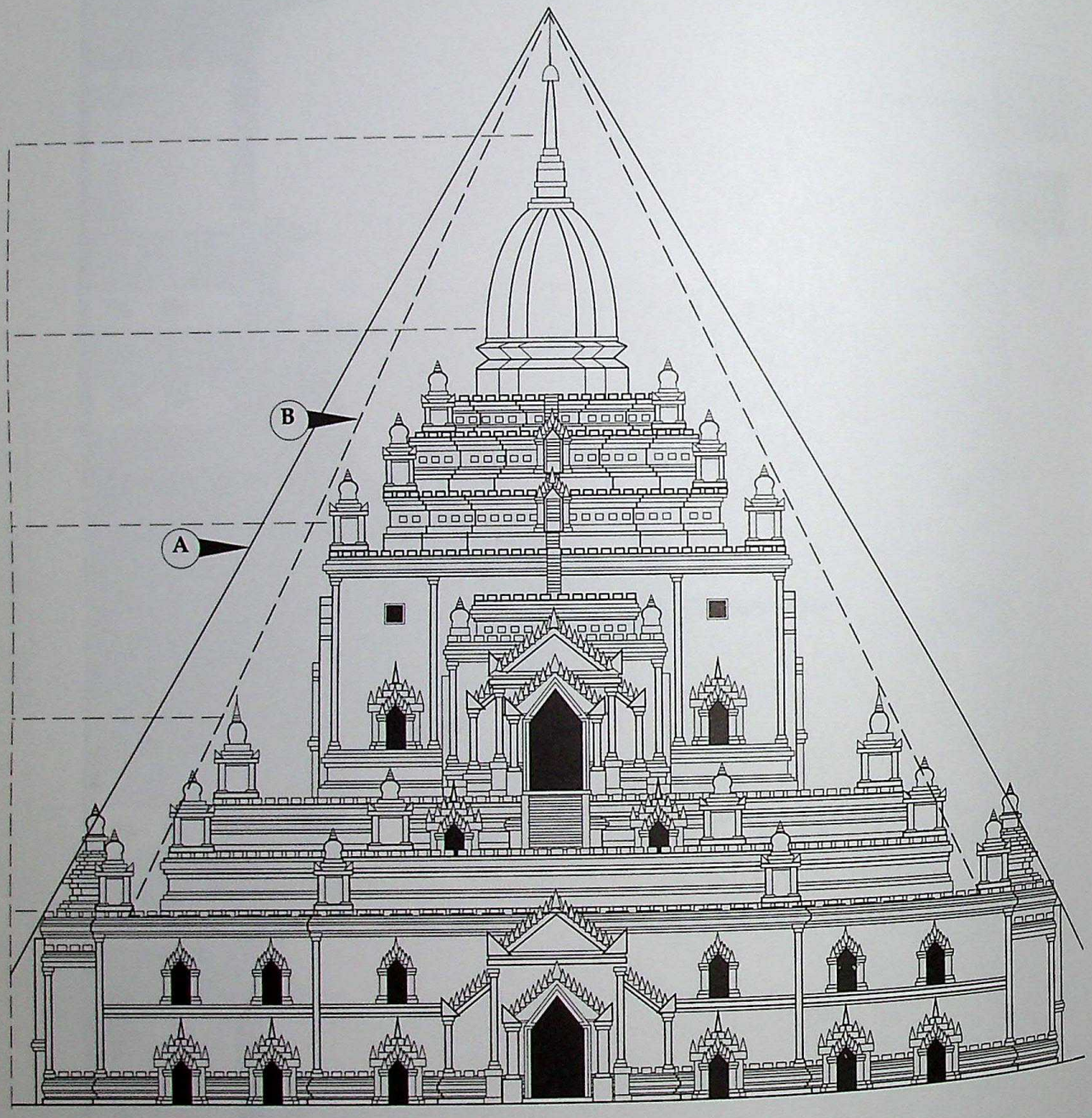
= solid



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

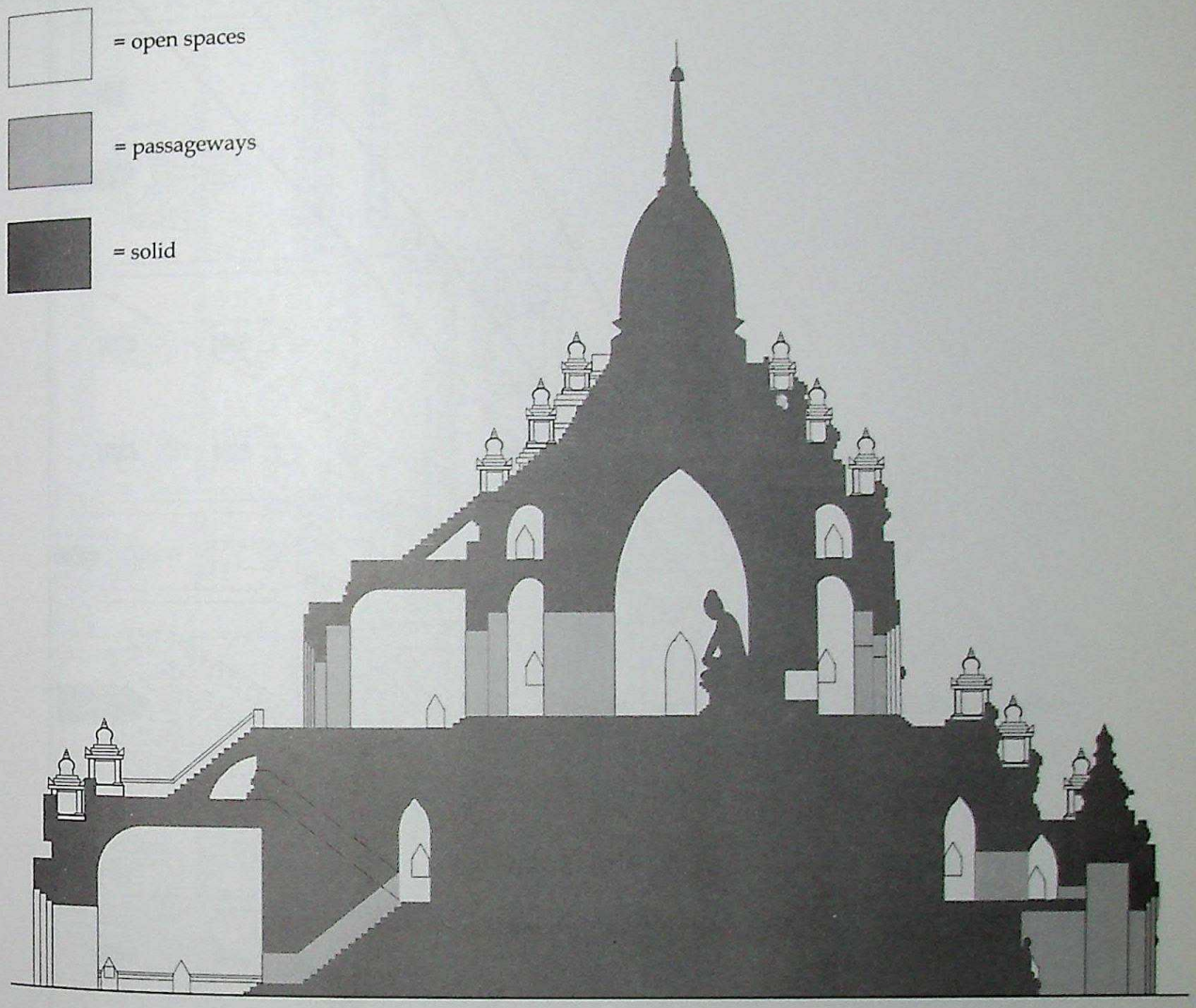
Plate 132 -- Elevation (proportional), *That-Byin-Nyu*, Pagan, b. 1165 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

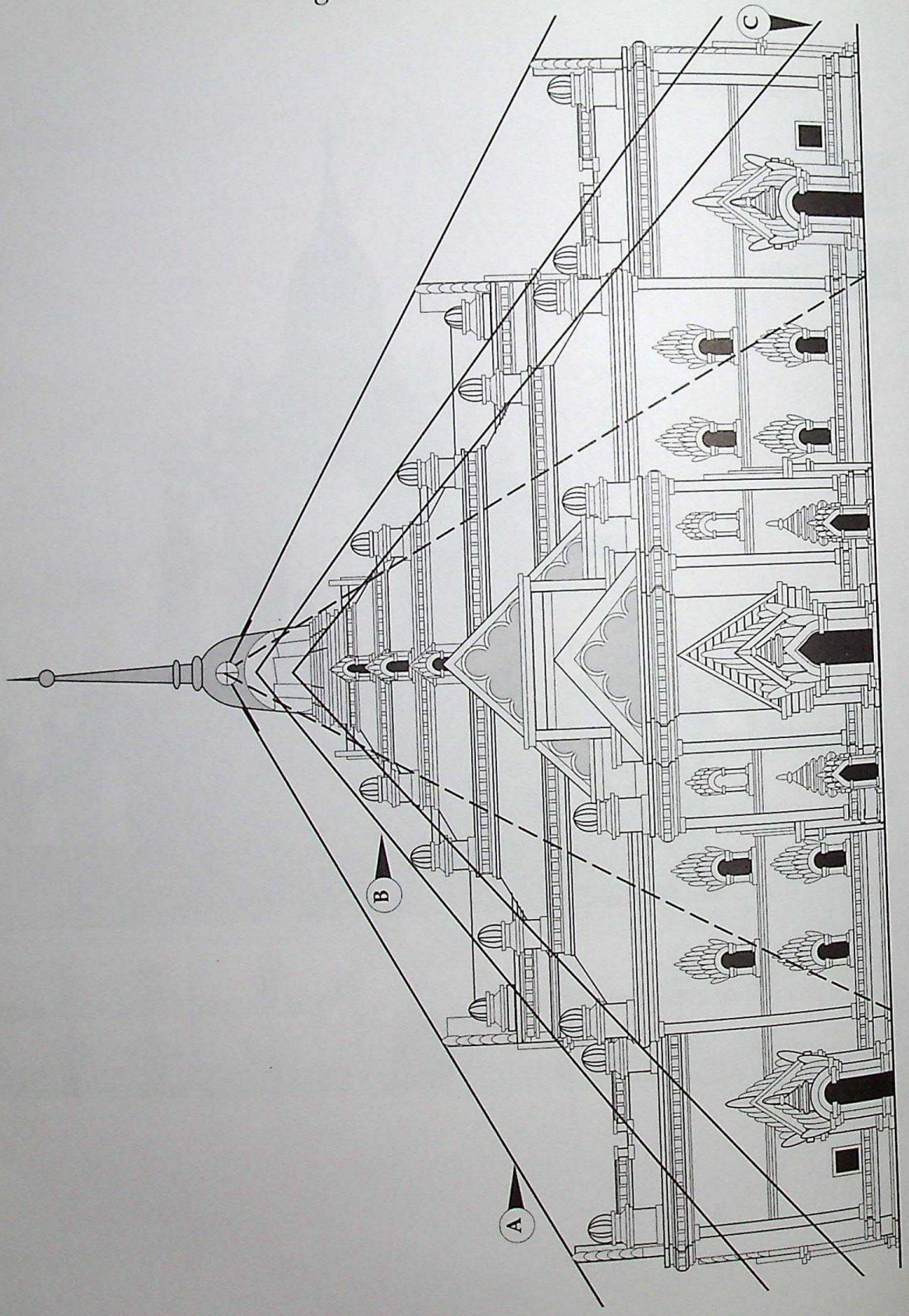
Plate 133 -- Section, *That-Byin-Nyu*, Pagan, b. 1165 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

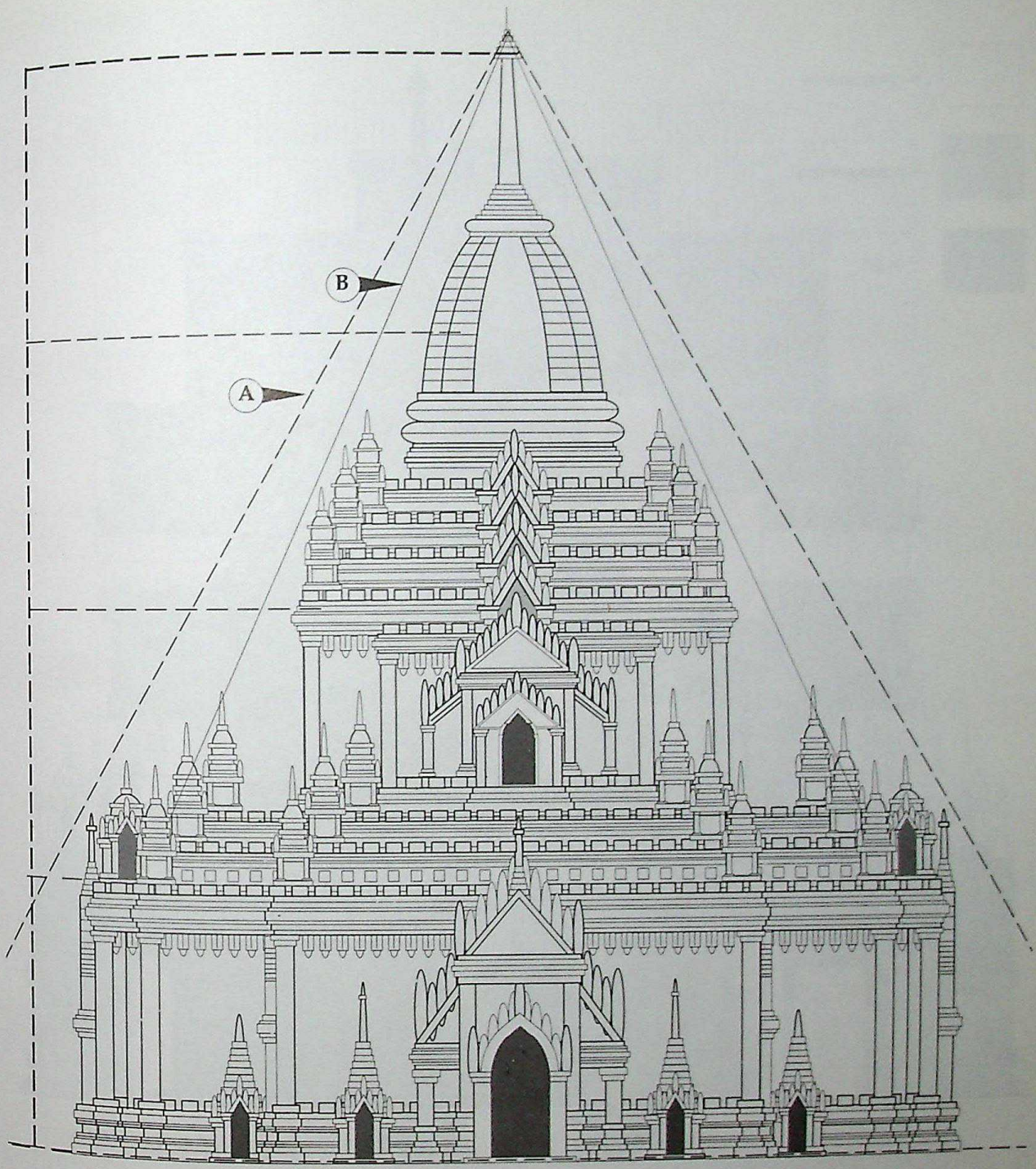
Plate 134 -- Elevation (proportional), *Dhamma-Yan-Gyi*, Pagan, b. 1165 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

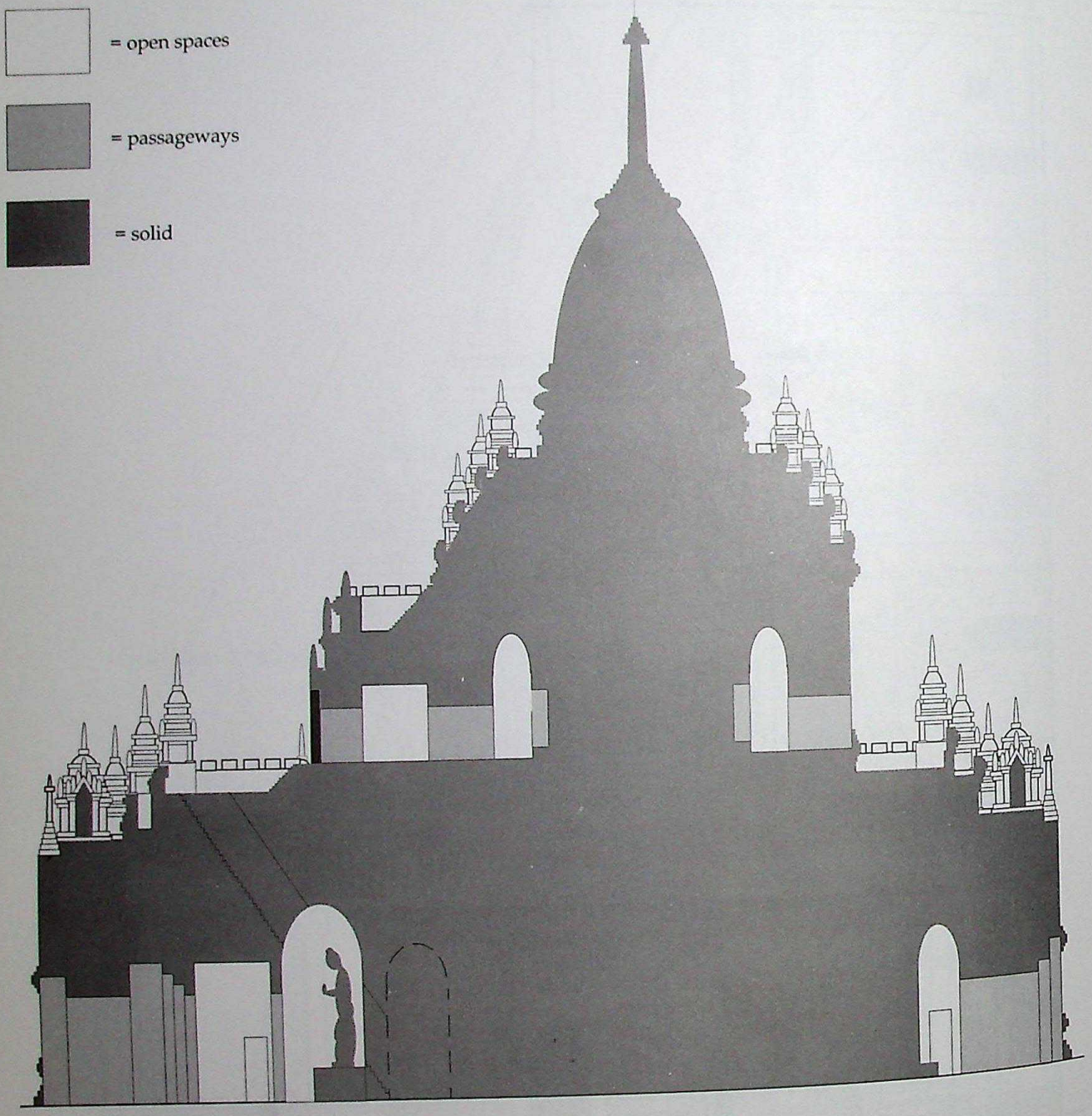
Plate 135 -- Elevation (proposed), *Gawdaw-Palin*, Pagan, 13th C.



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

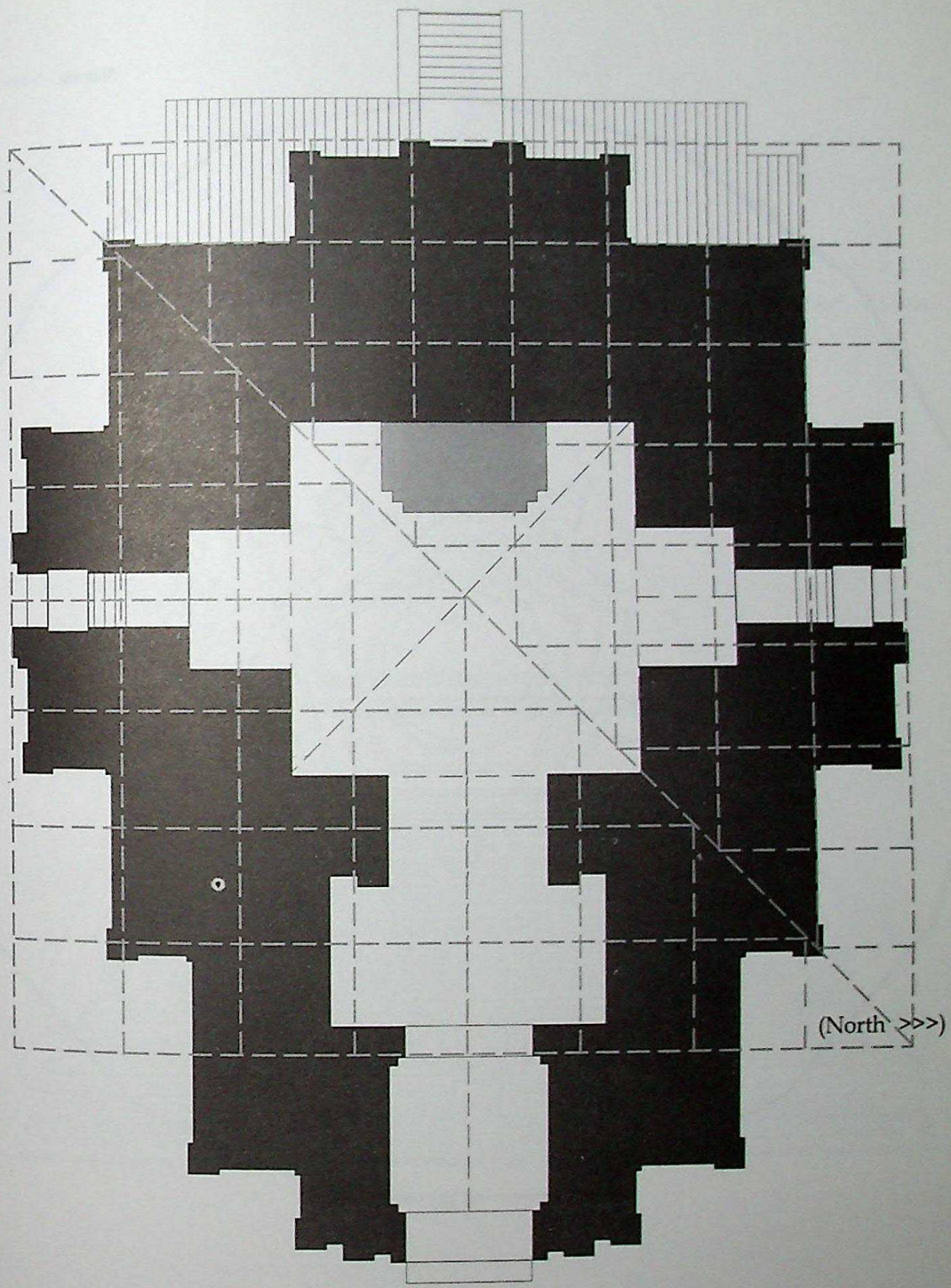
Plate 136 -- Section (proposed), *Gawdaw-Palin*, Pagan, 13th C.



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

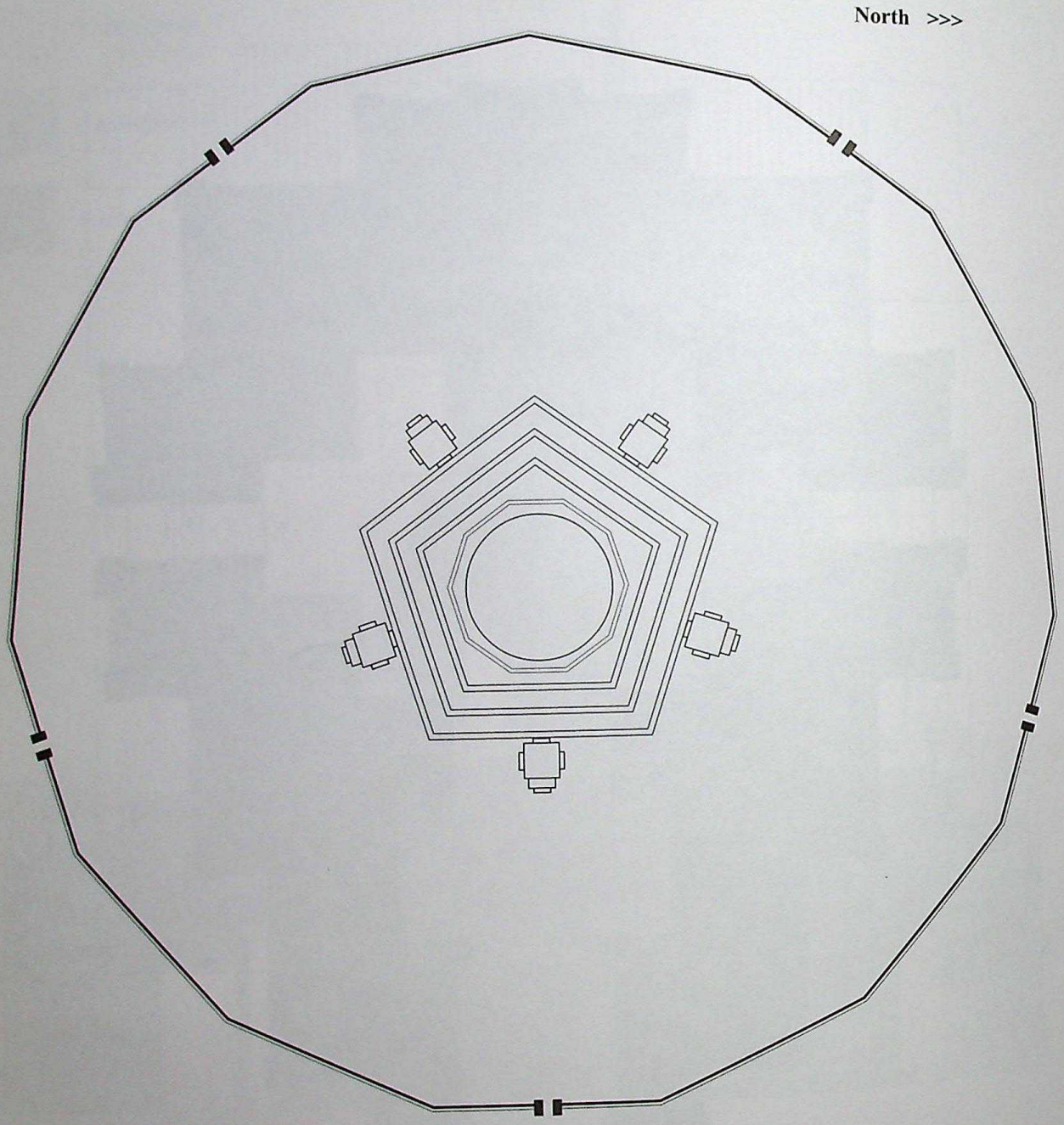
Plate 137 -- Axial Plan, Subsidiary Shrine *Dhamma-Yazika*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

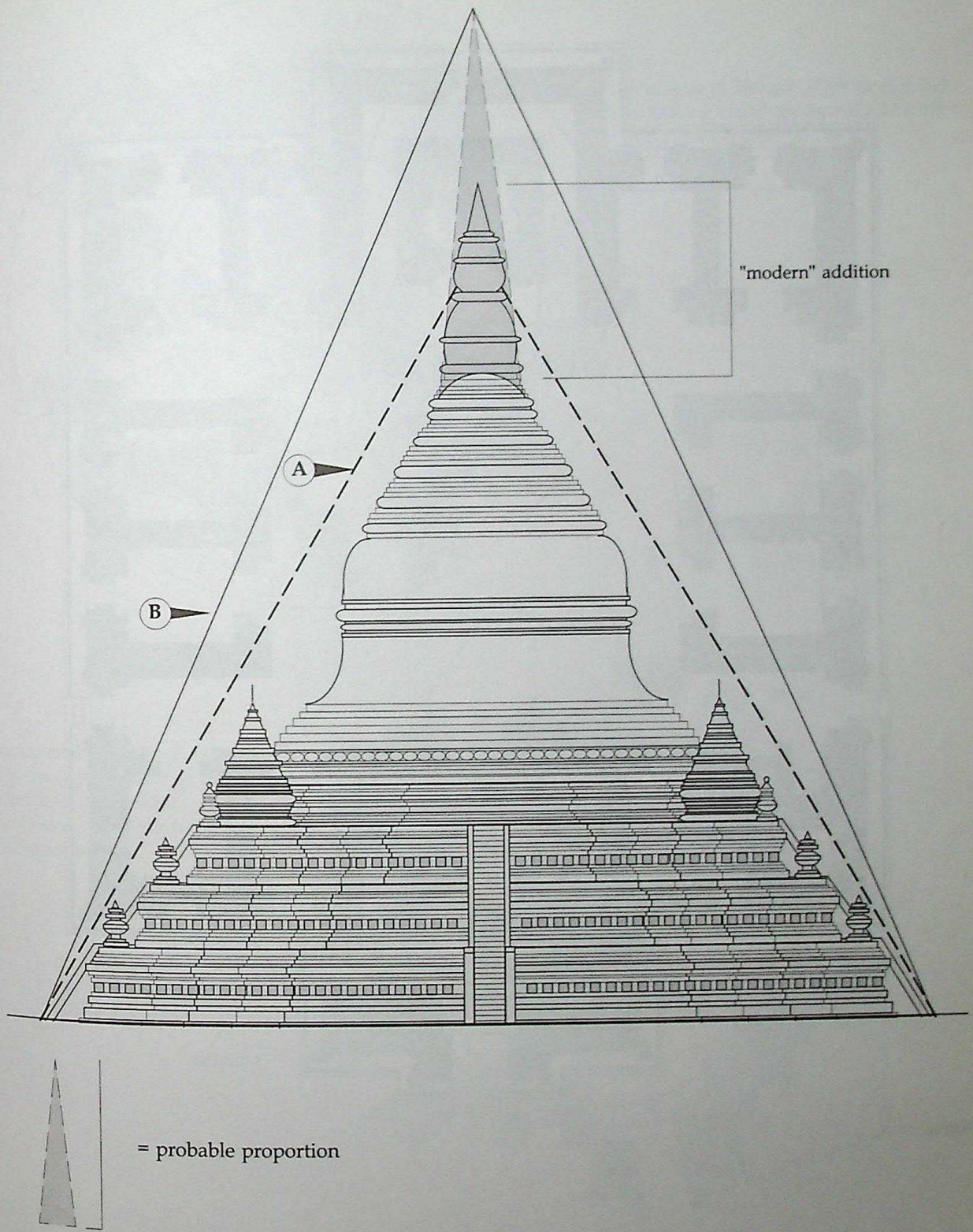
Plate 138 -- Plan (ensemble), *Dhamma-Yazika*



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

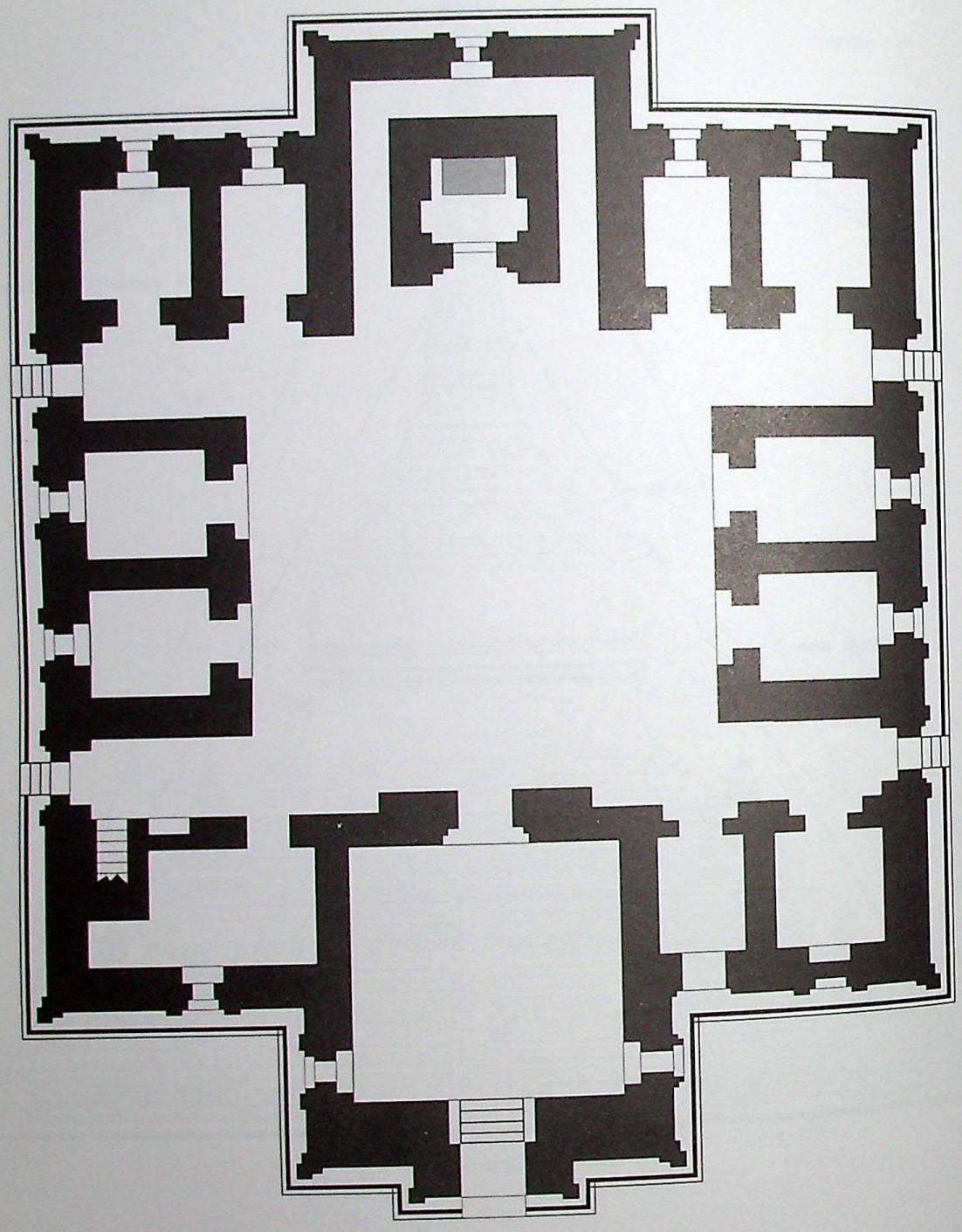
Plate 139 -- Elevation (proposed), *Mingala-zeidi*, Pagan, (1274-1284 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 140 -- *Somin-Gyi Ok-Kyaung* (Monastery)

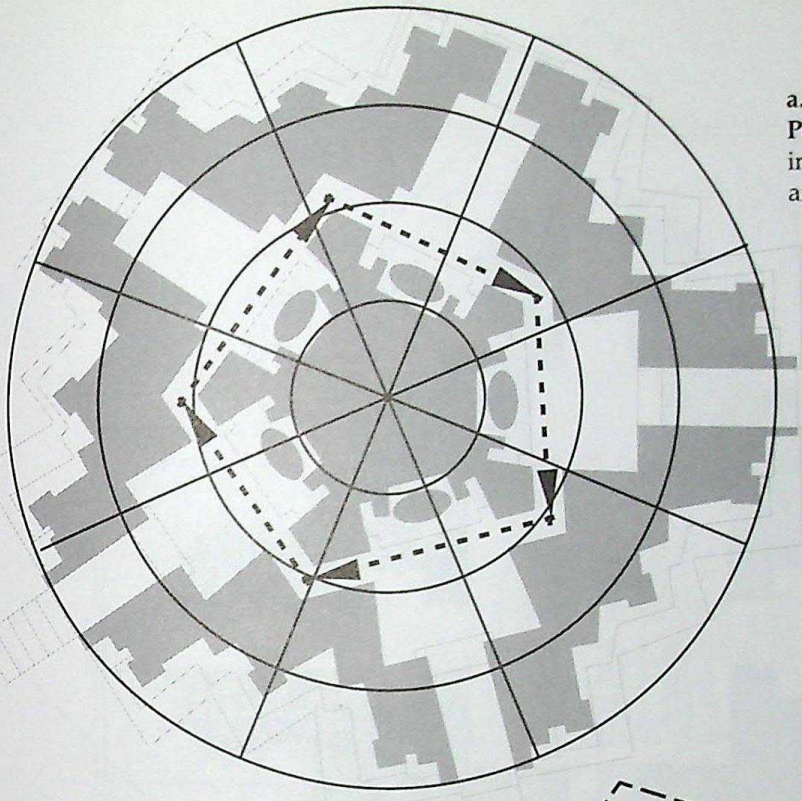


North >>>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

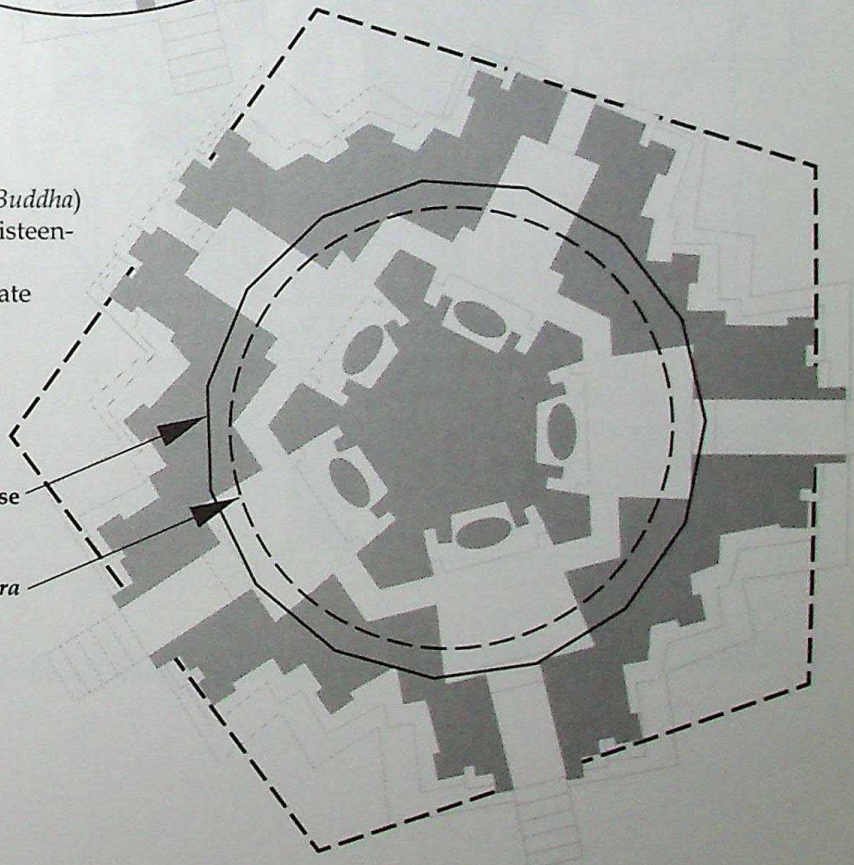
Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 141 -- Plan with variations and other features, *Pentagonal Temple*



a.
Pentagonal Temple (*Pancha Buddha*) indicating circular *Manduka Mandala* and *pradakshinapatha* (►).

<<< North

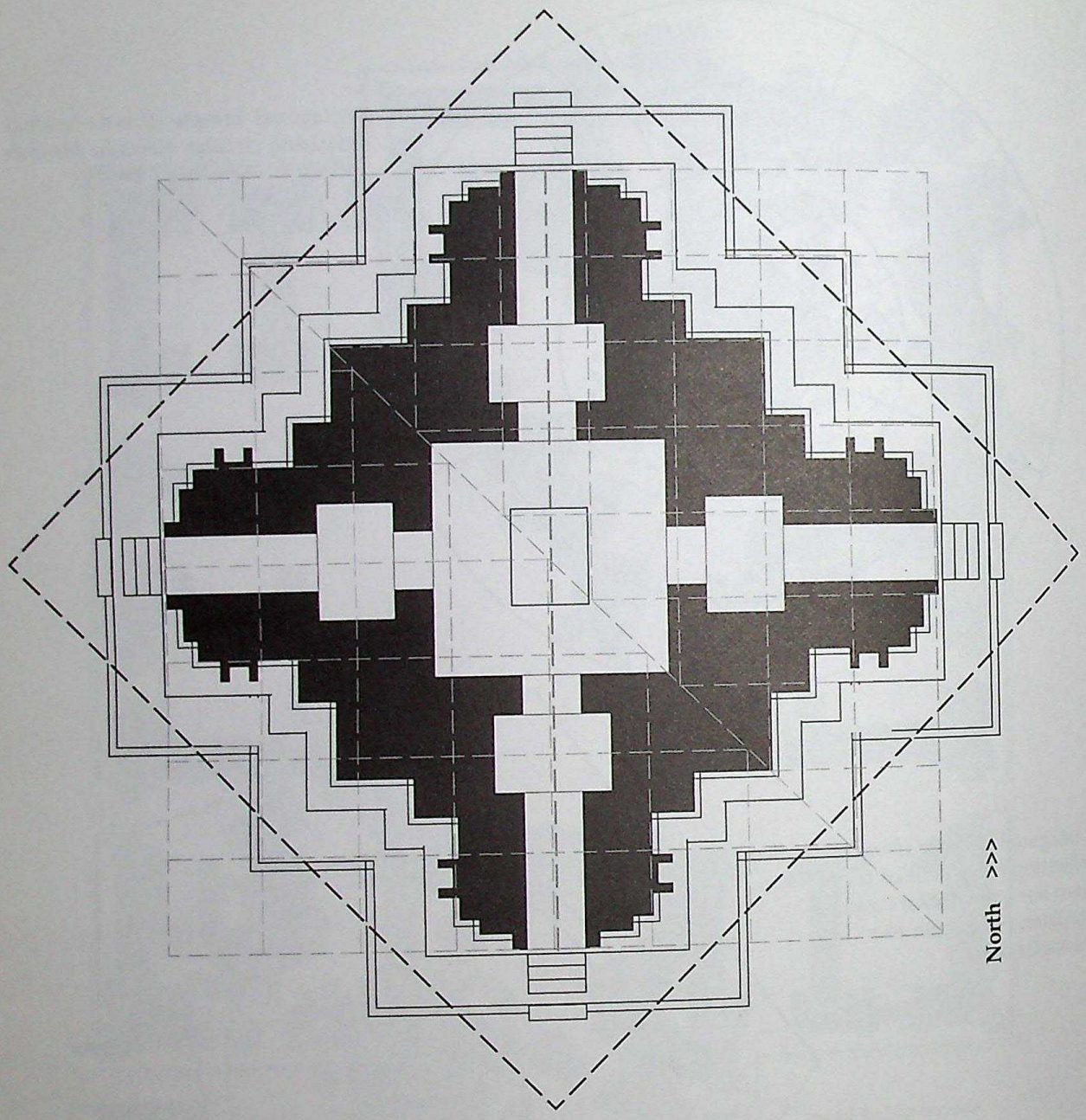


b.
Pentagonal Temple (*Pancha Buddha*) indicating placement of the sisteen-sided base, the *shikhara* and a equilateral pentagon to indicate the variation.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

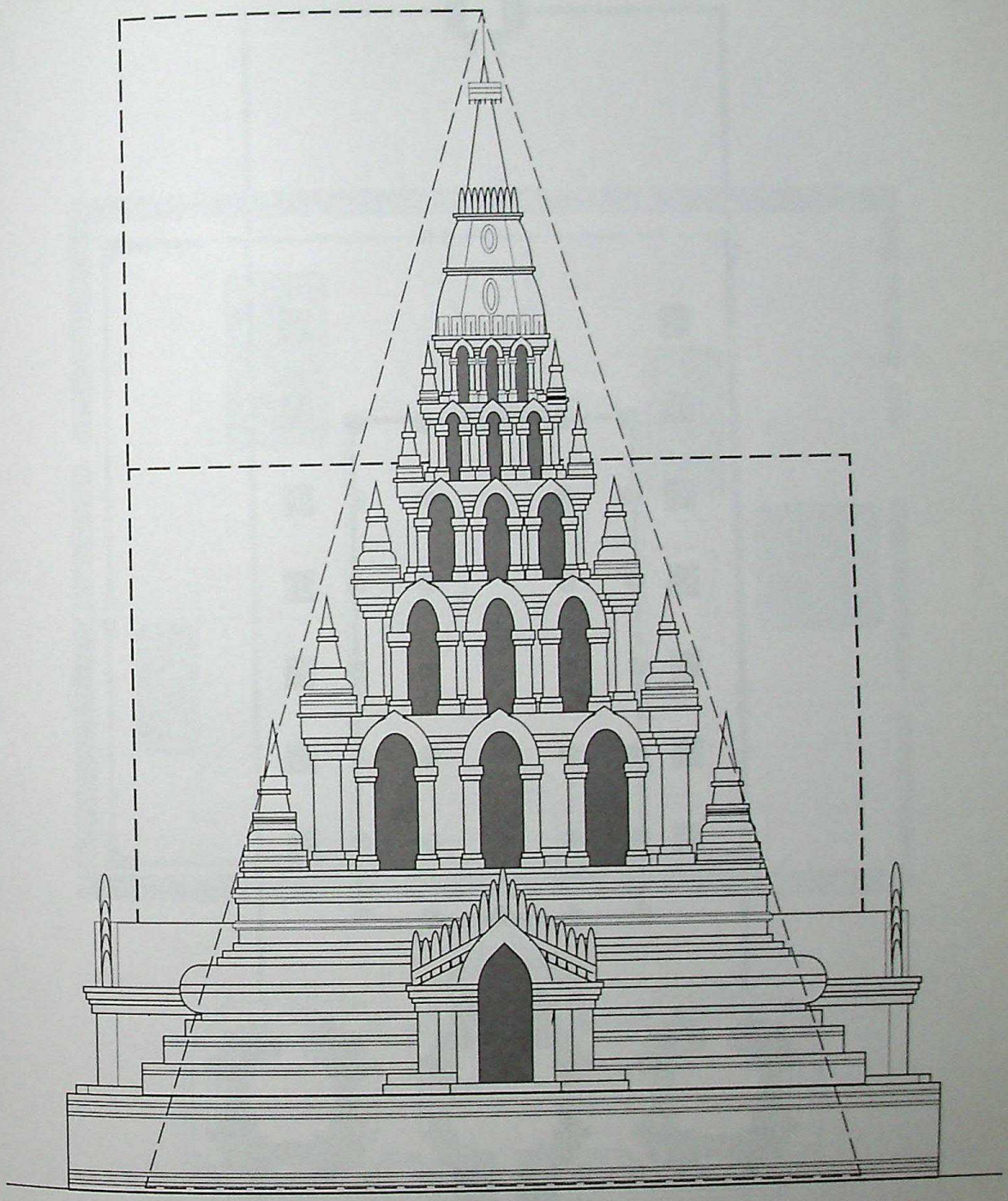
Plate 142 -- Cross Axial Plan (reconstructed), *Wat Kaew*, Chaiya, 8 C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

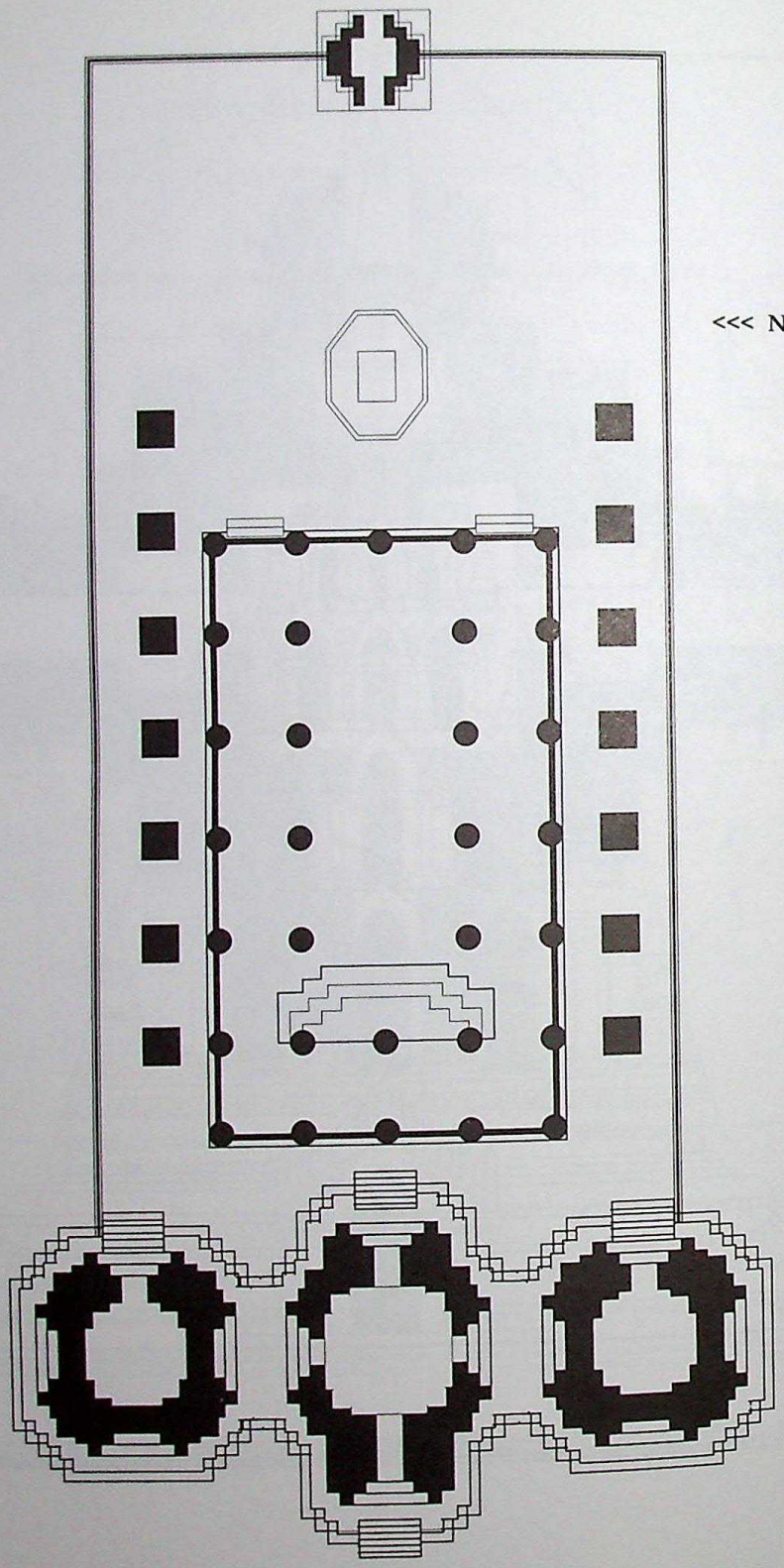
Plate 143 -- Elevation (reconstructed), *Chedi Si Liem*, Chiang Mai, 1300 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

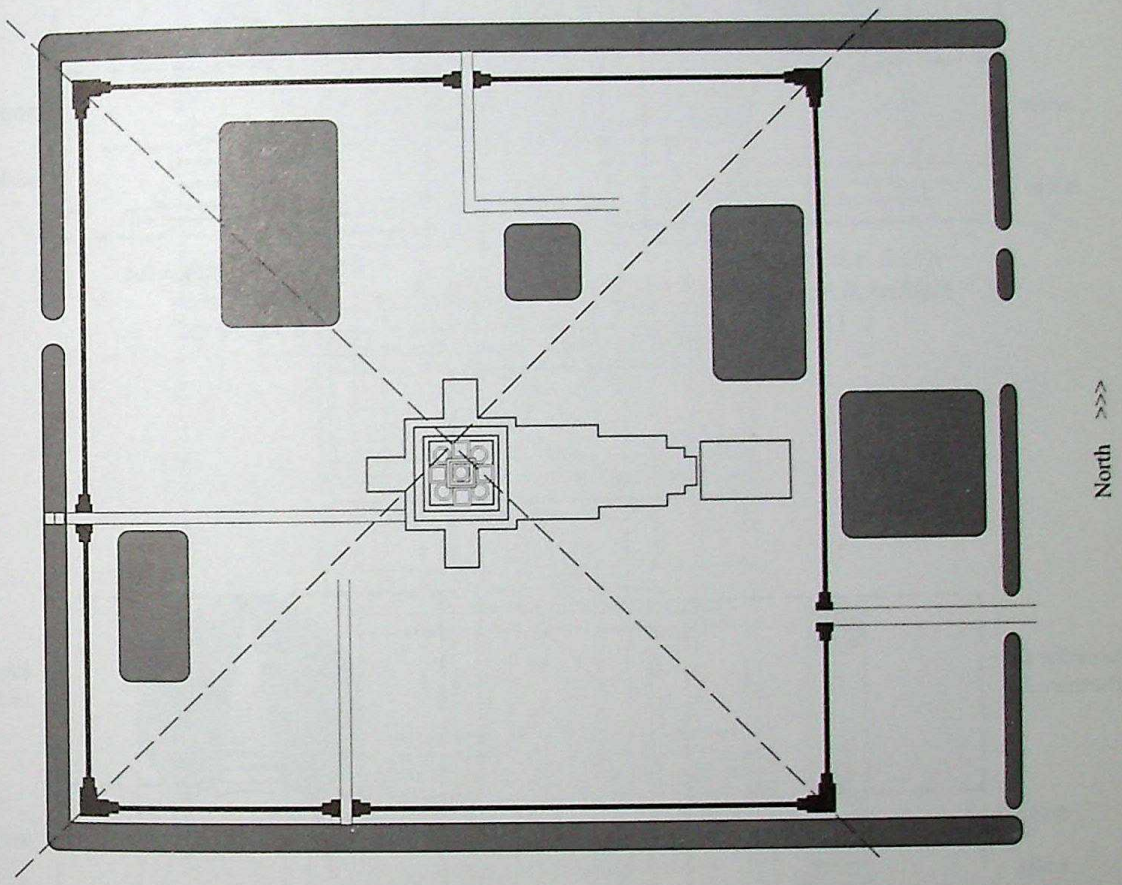
Plate 144 -- Plan, *Wat Phra Phai Luang* (shrine ensemble), Sukhothai, late 12th-early 13th C. CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

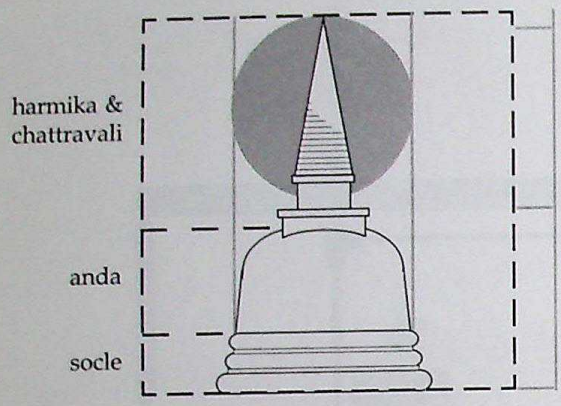
Plate 145 -- Plan (enclosures), *Wat Mahathat*, Sukhothai



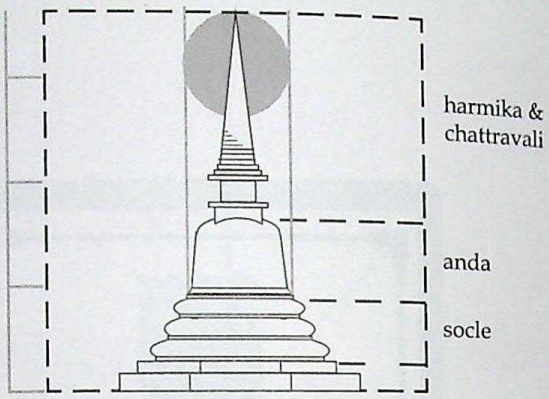
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

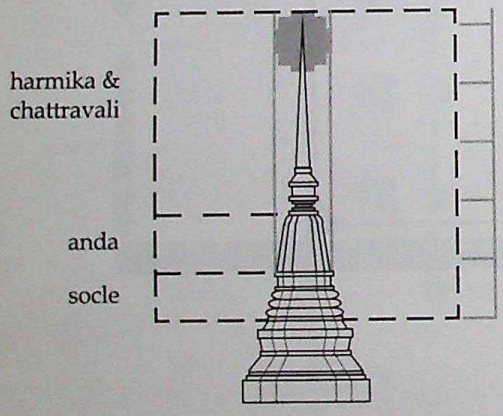
Plate 146 -- Elevations: *Thai Chedis* indicating variation and development



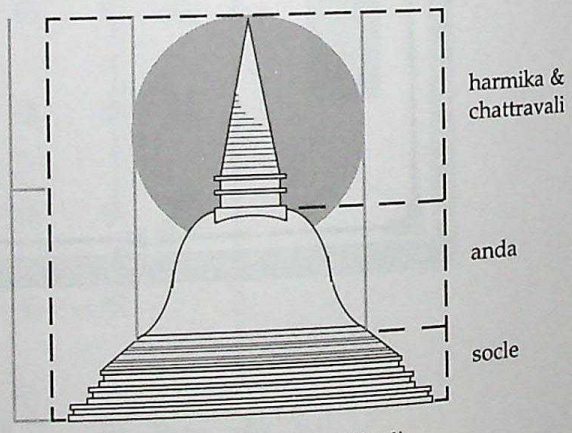
Chedi Wat Mahathat
Nakhon Si Thammarat
c. 1176



Chedi Wat Chang Lom
Si Satchanalai
c. 1275-1300



Subsidiary Chedi Wat Champhon Nikayarman
Ayutthaya
a. 1600



Phra Pathom Chedi
Nakhon Pathom
c. 1855

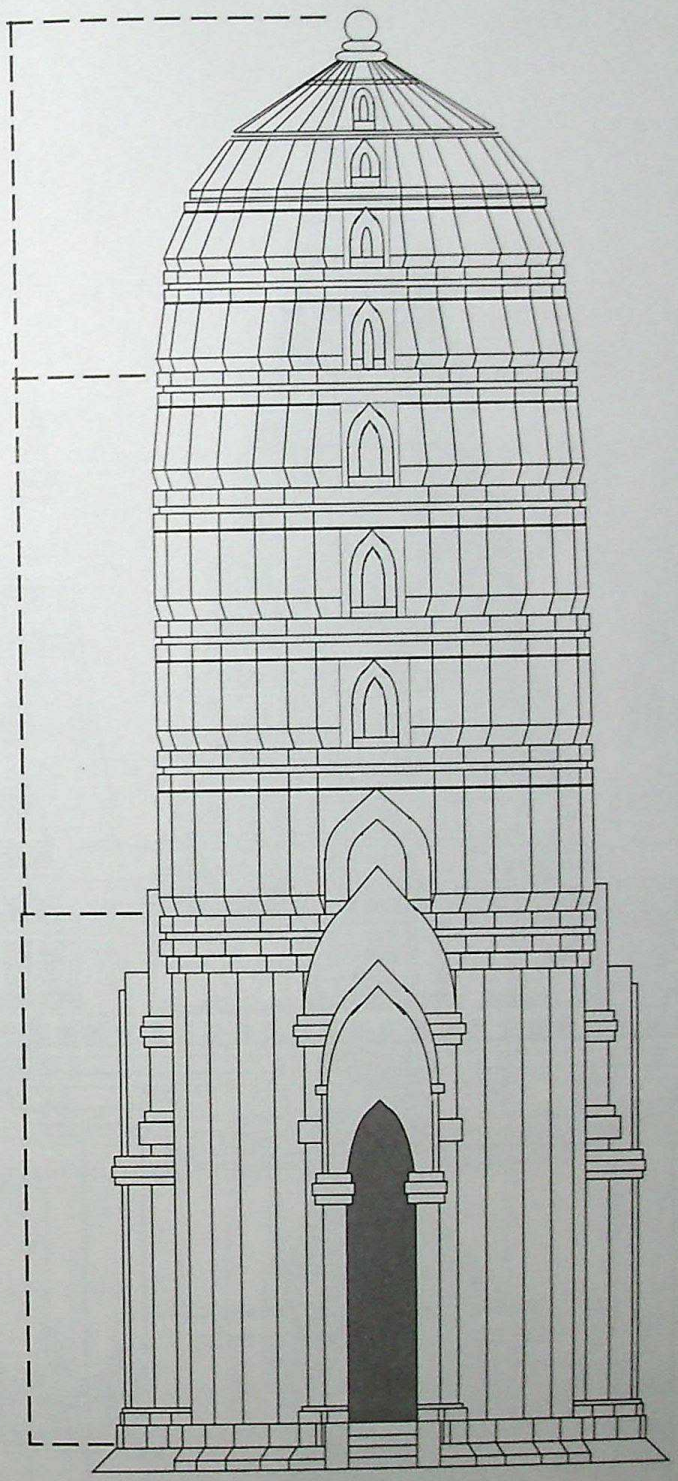
= the diameter of the *anda*

= the diameter in relation to the whole

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

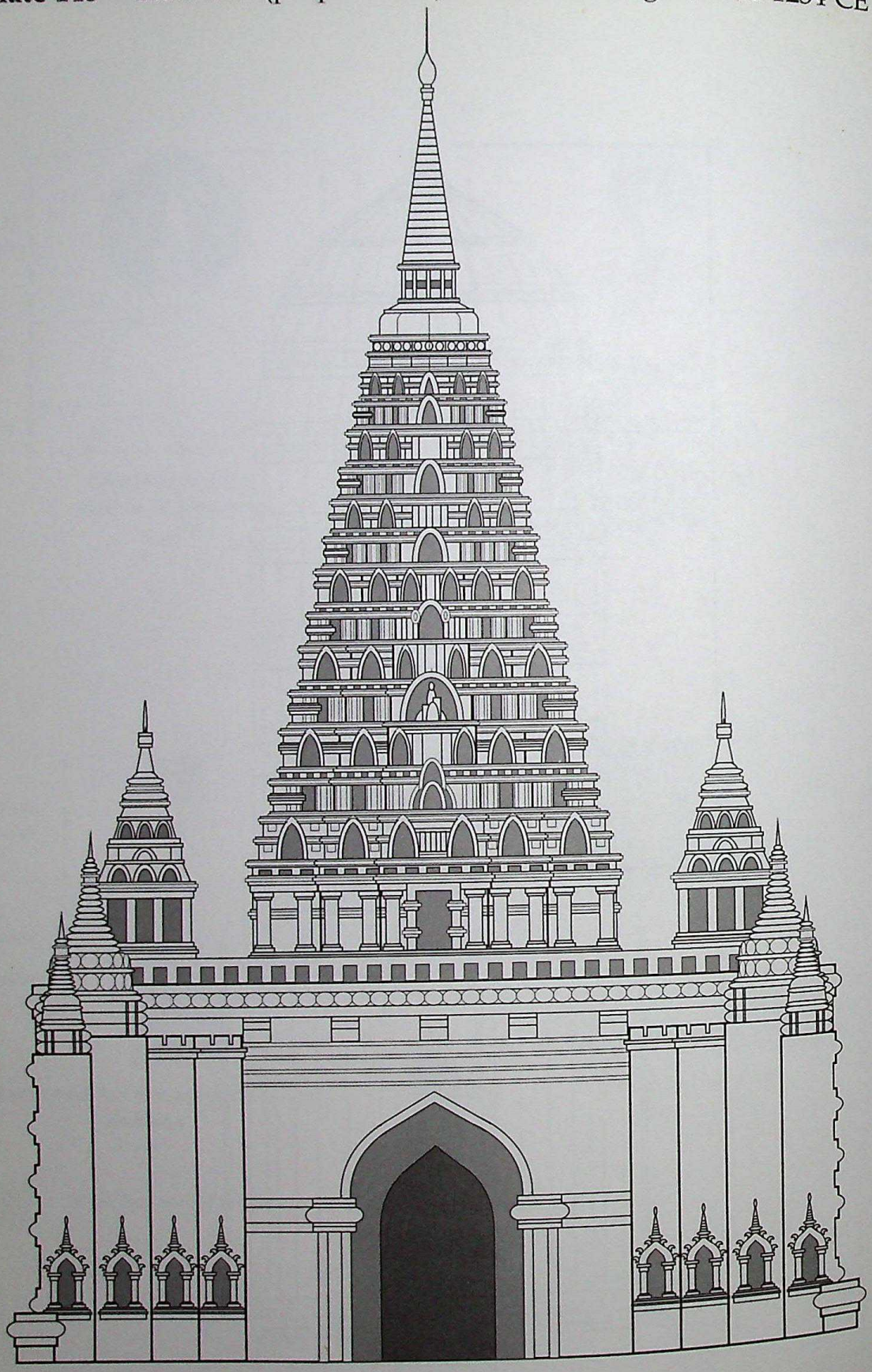
Plate 147 -- Elevation (reconstructed), *Prang, Wat Phra Ram*, Ayutthaya



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

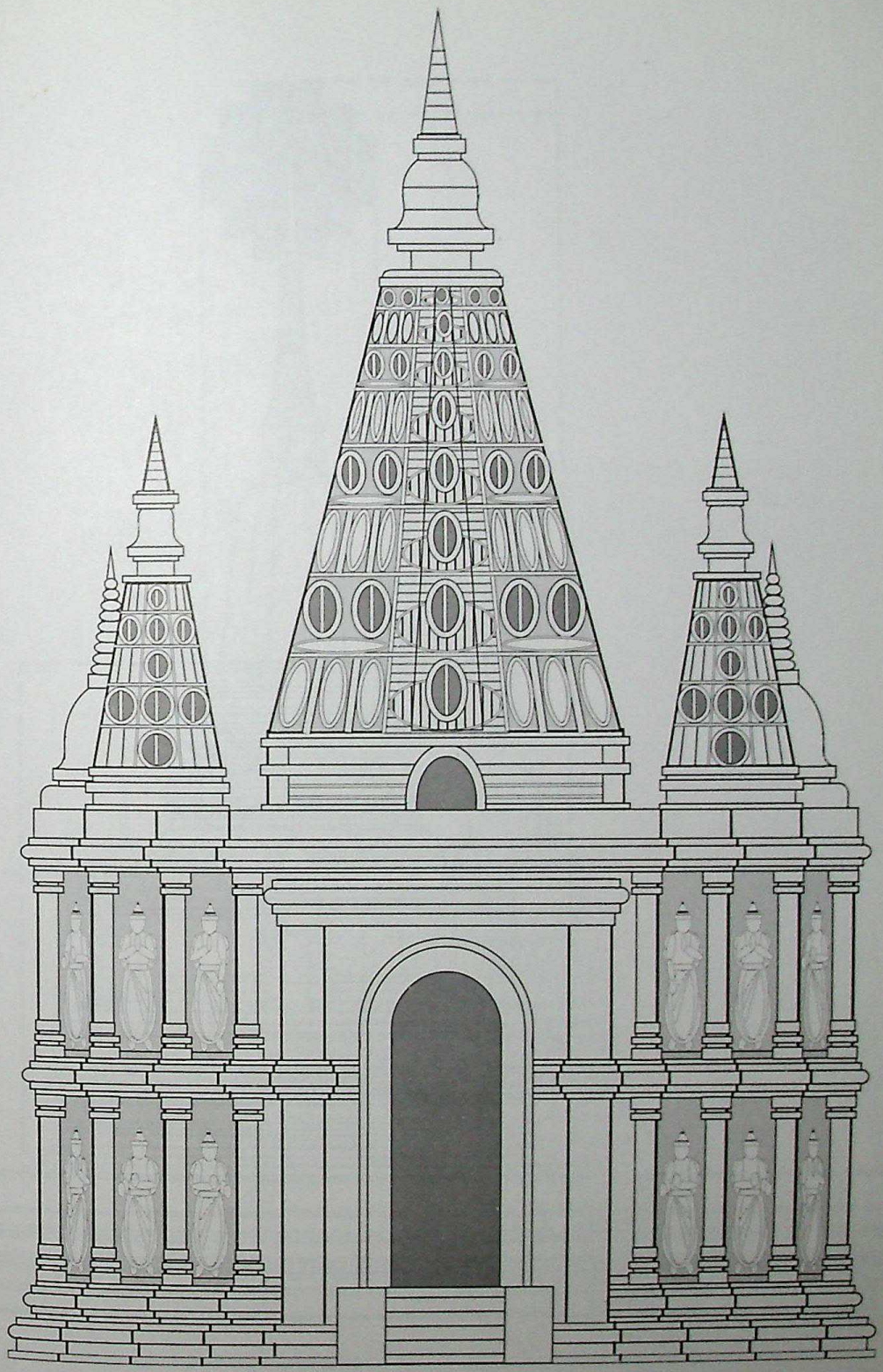
Plate 148 -- Elevation (proportional), *Mahabodhi*, Pagan, 1211-1234 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

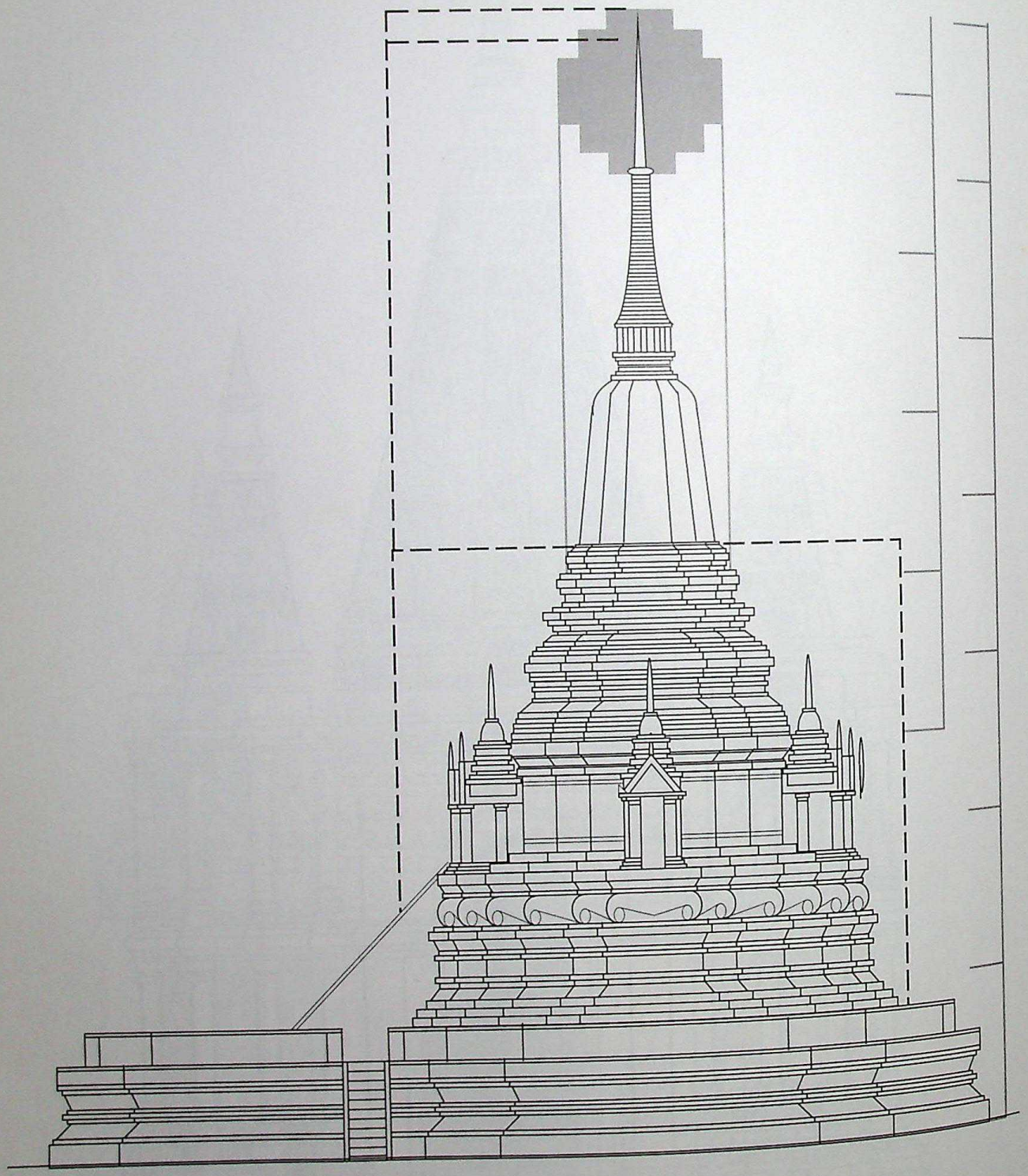
Plate 149 -- Elevation (proportional), Chedi Chet Yot, Chiang Mai



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

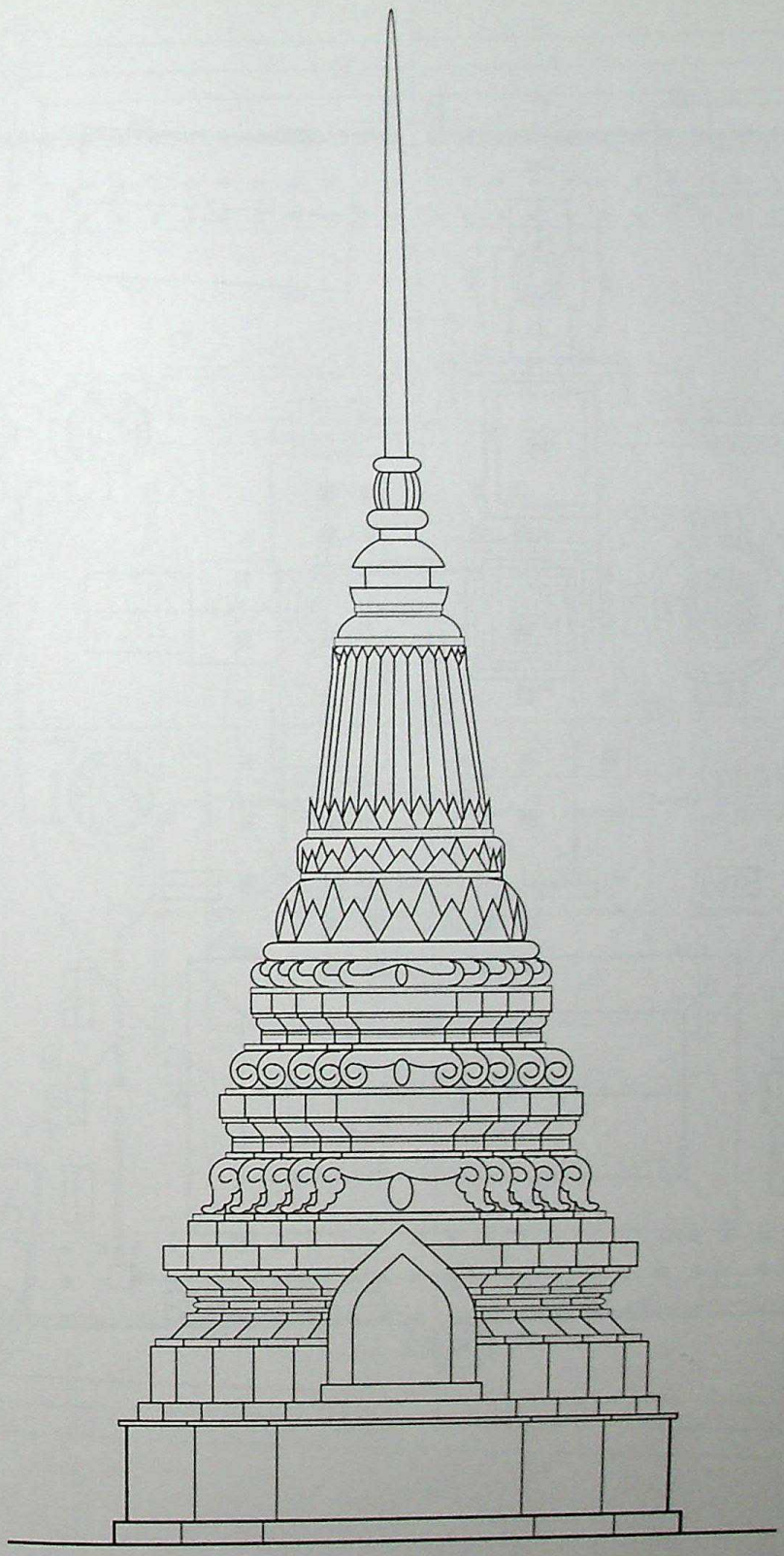
Plate 150 -- Elevation, *Chedi Si Suriyothai, Wat Suan Luang Sop Sawan,* Ayutthaya



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

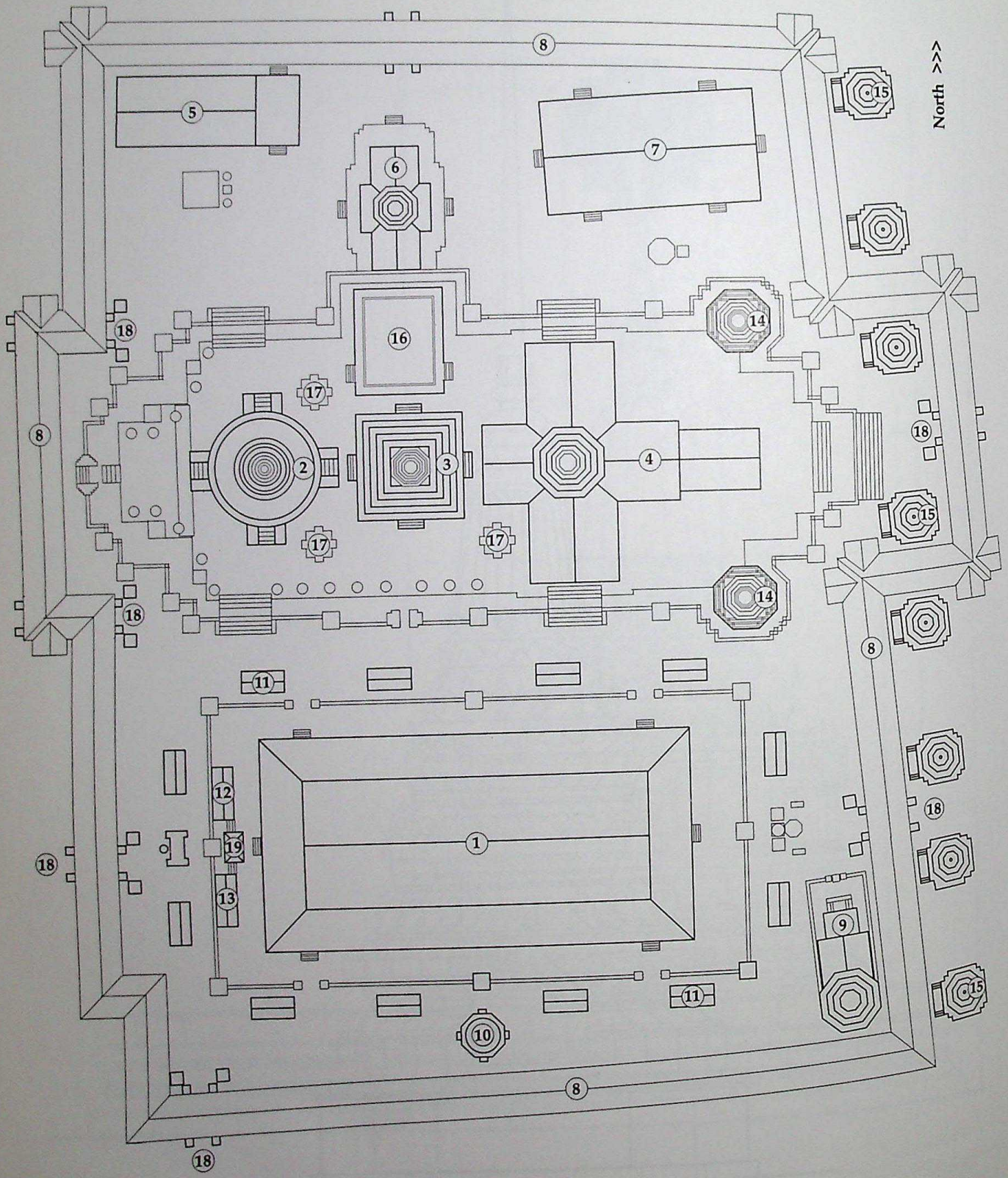
Plate 151 -- Elevation, subsidiary stucco chedi, *Wat Khian*, Ayutthaya



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

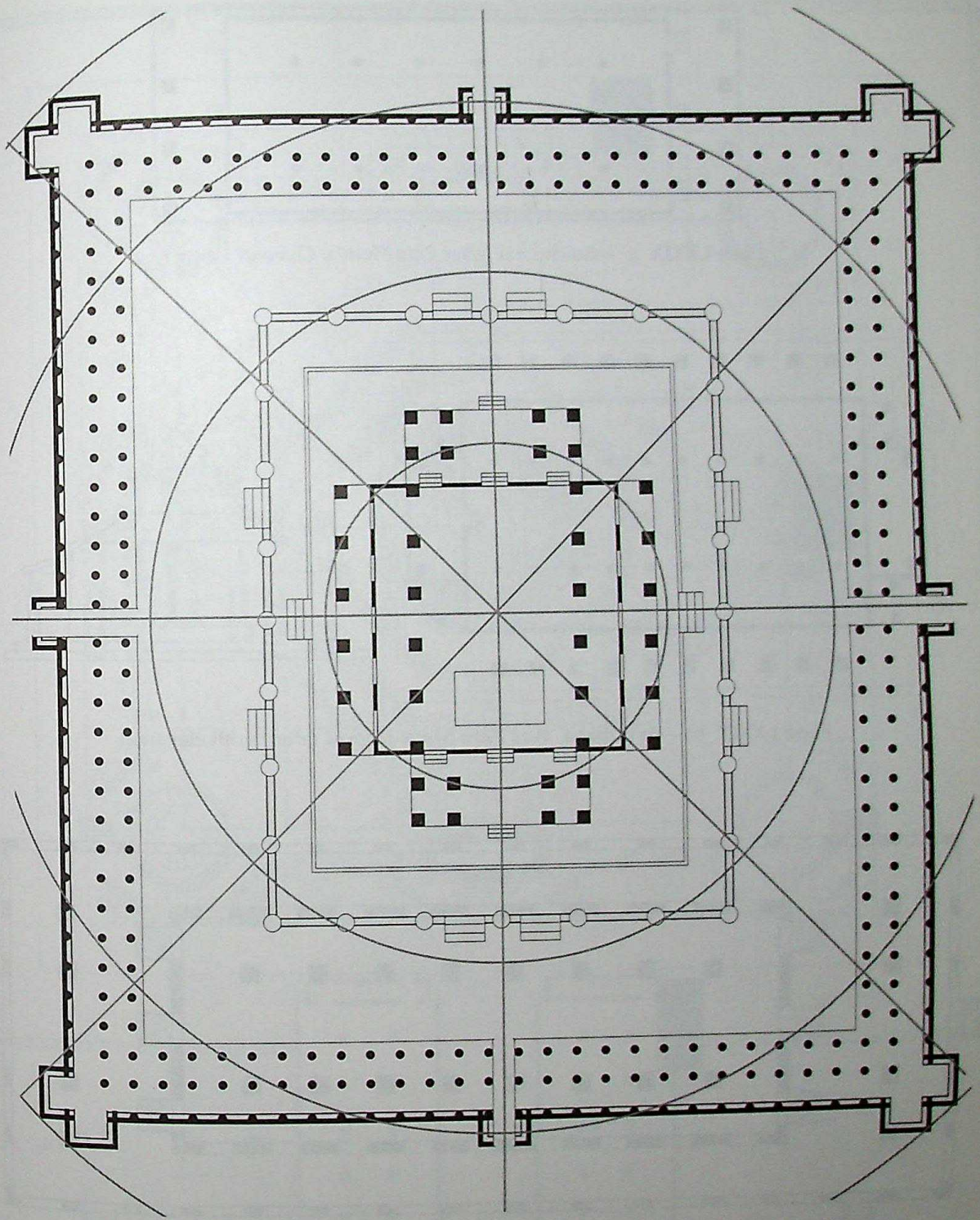
Plate 152 -- *Wat Phra Kaew*, Bangkok, a. 1785 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 153 -- Plan *Wat Suthat Viharn* (indicating *Manduka Mandala*), Bangkok, 1807 CE



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 154 -- Typical *Ubosot/Viharn* Plans

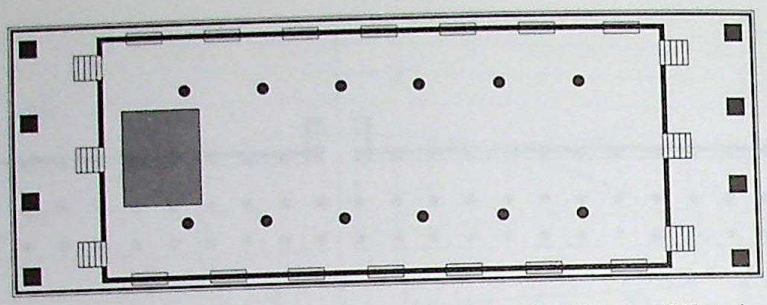


Plate LXXIX a -- **Sukhothai** (after *Phra Phuttha Chinarat Viharn*)

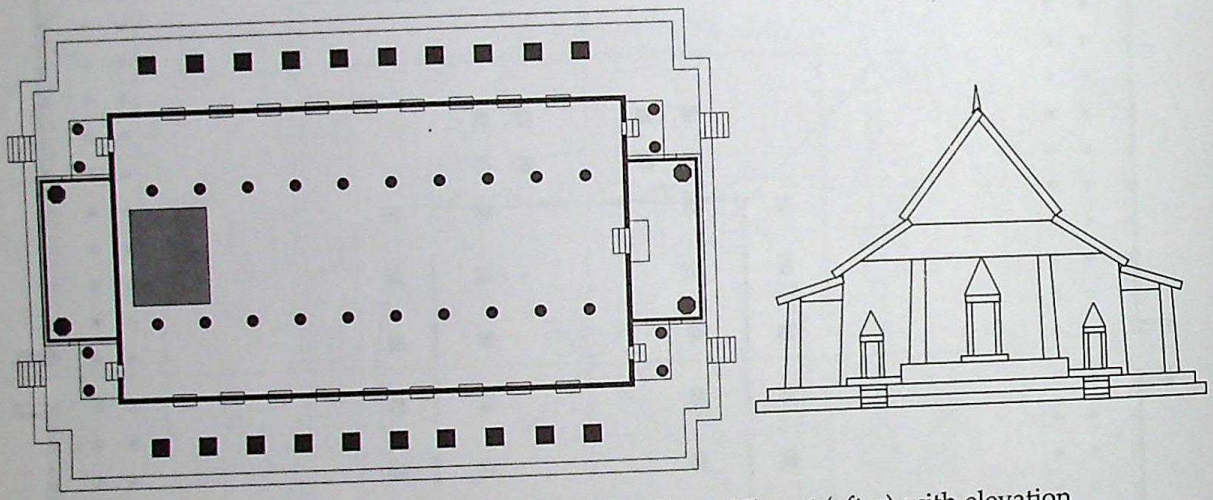


Plate LXXIX b -- **Ayutthaya, *Wat Phra Mane Ubosot*** (after) with elevation

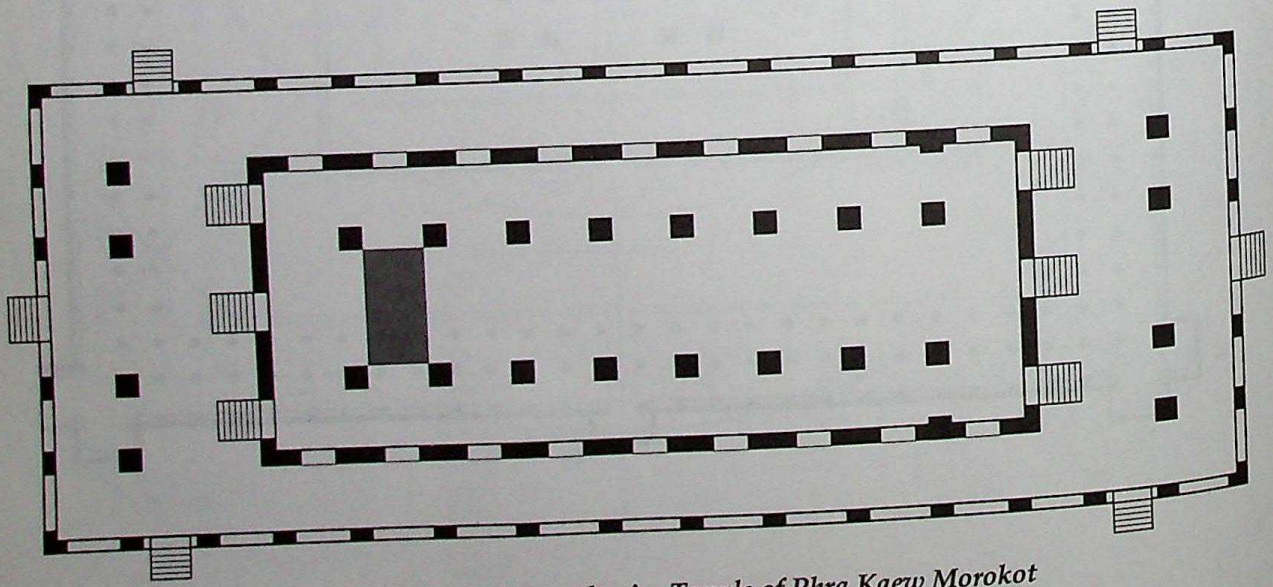
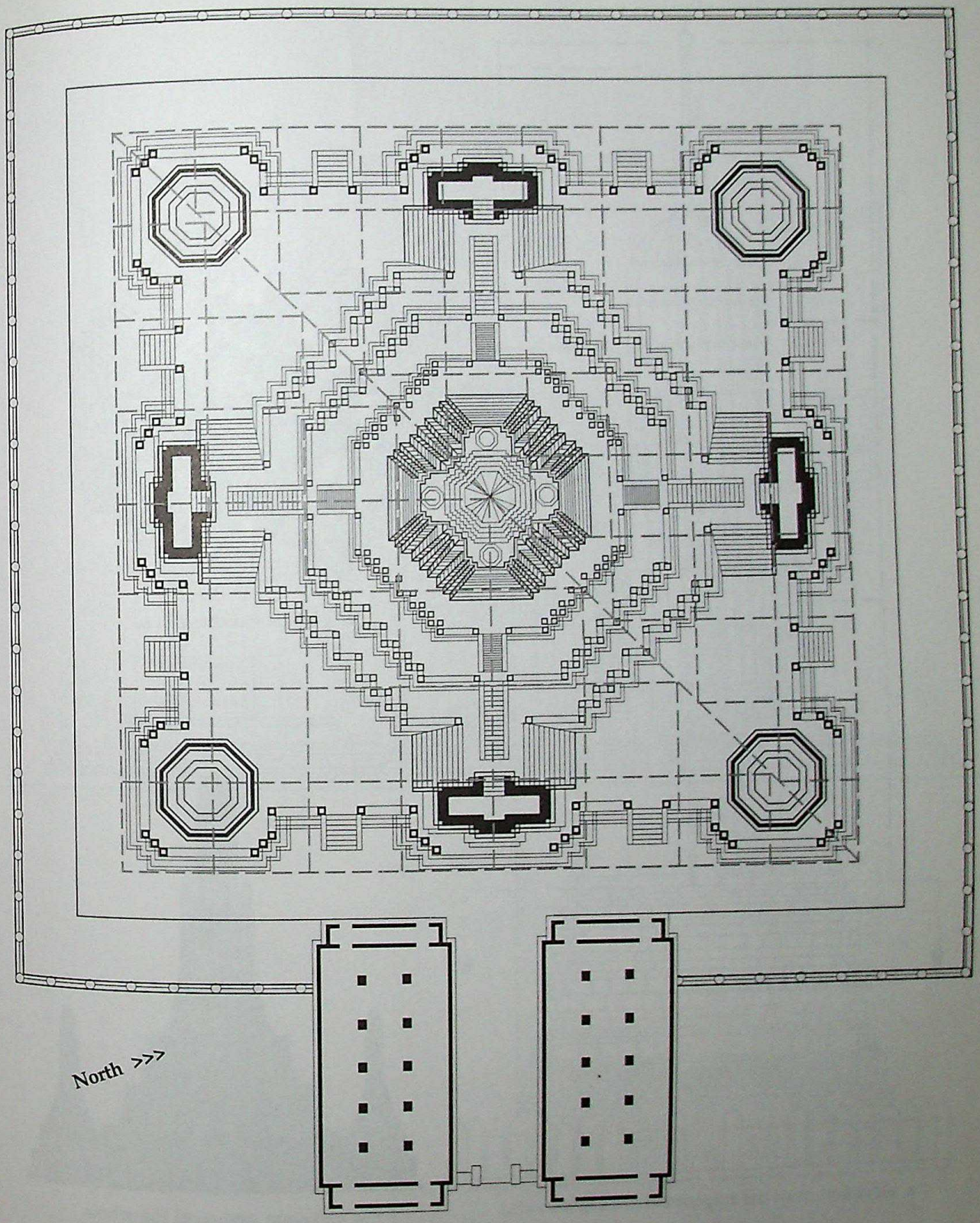


Plate LXXIX c -- **Rattanakosin, *Temple of Phra Kaew Morokot***

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

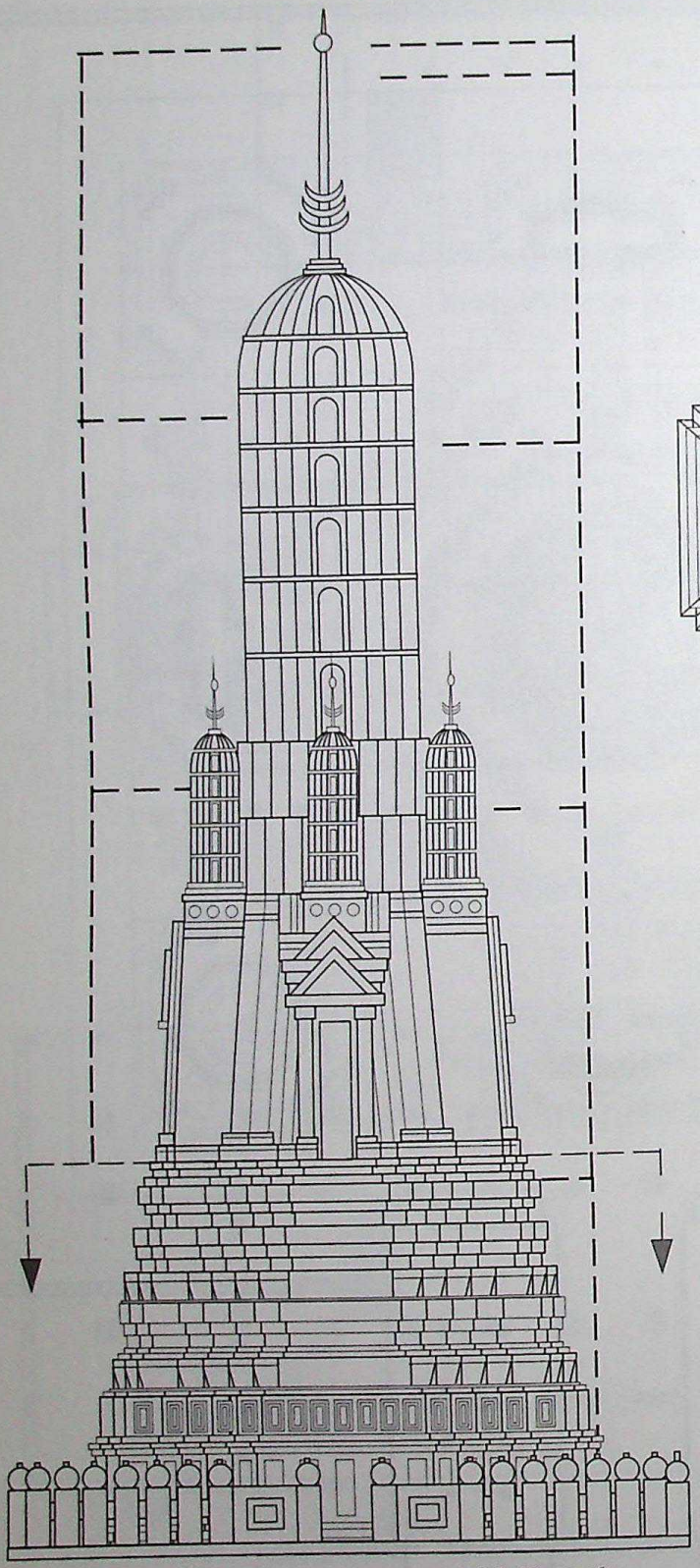
Plate 155 -- Plan, *Wat Arun Rajtharam*, Thonburi (1842-1847)



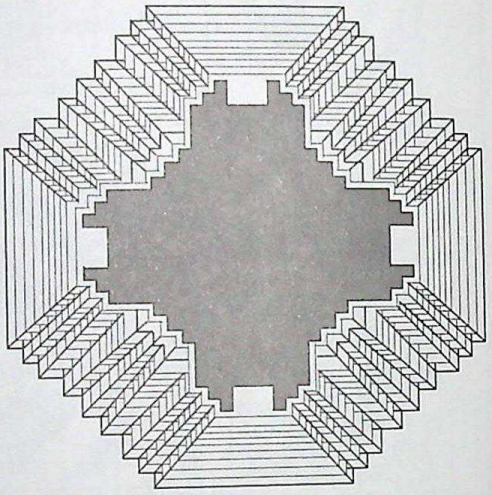
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

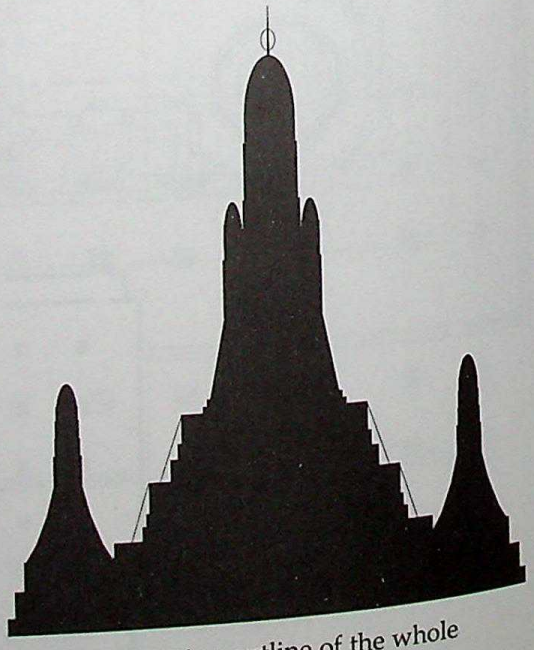
Plate 156 -- Elevations and Plan, *Prang, Wat Arun Rajtharam,* Thonburi (1842-1847)



a. elevation from the uppermost *pradakshinapatha*



b. plan as indicated in a.

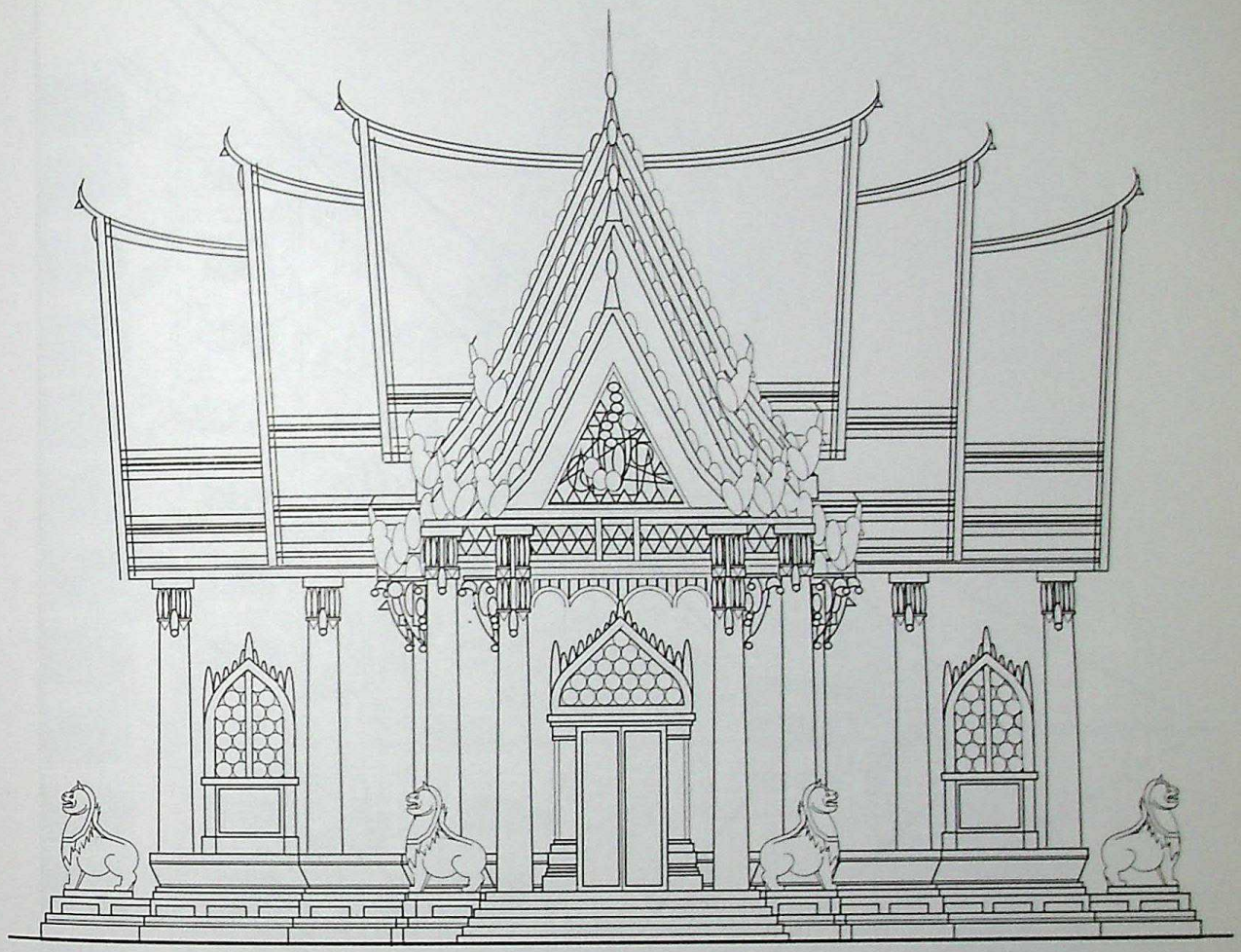


c. elevation outline of the whole

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

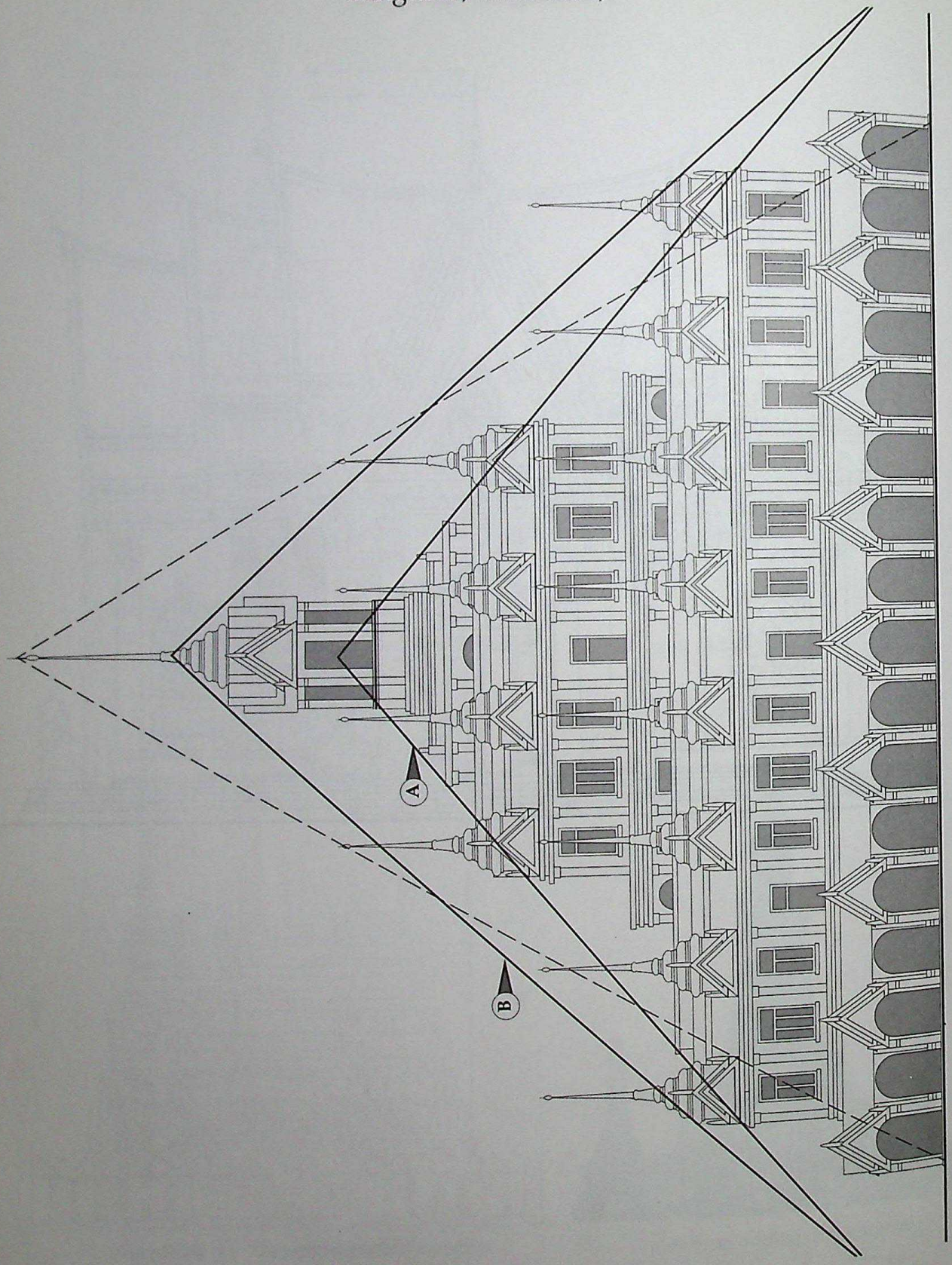
Plate 157 -- Elevation, *Prasat*, based on: *Wat Benchamabophit*, Bangkok (1901)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

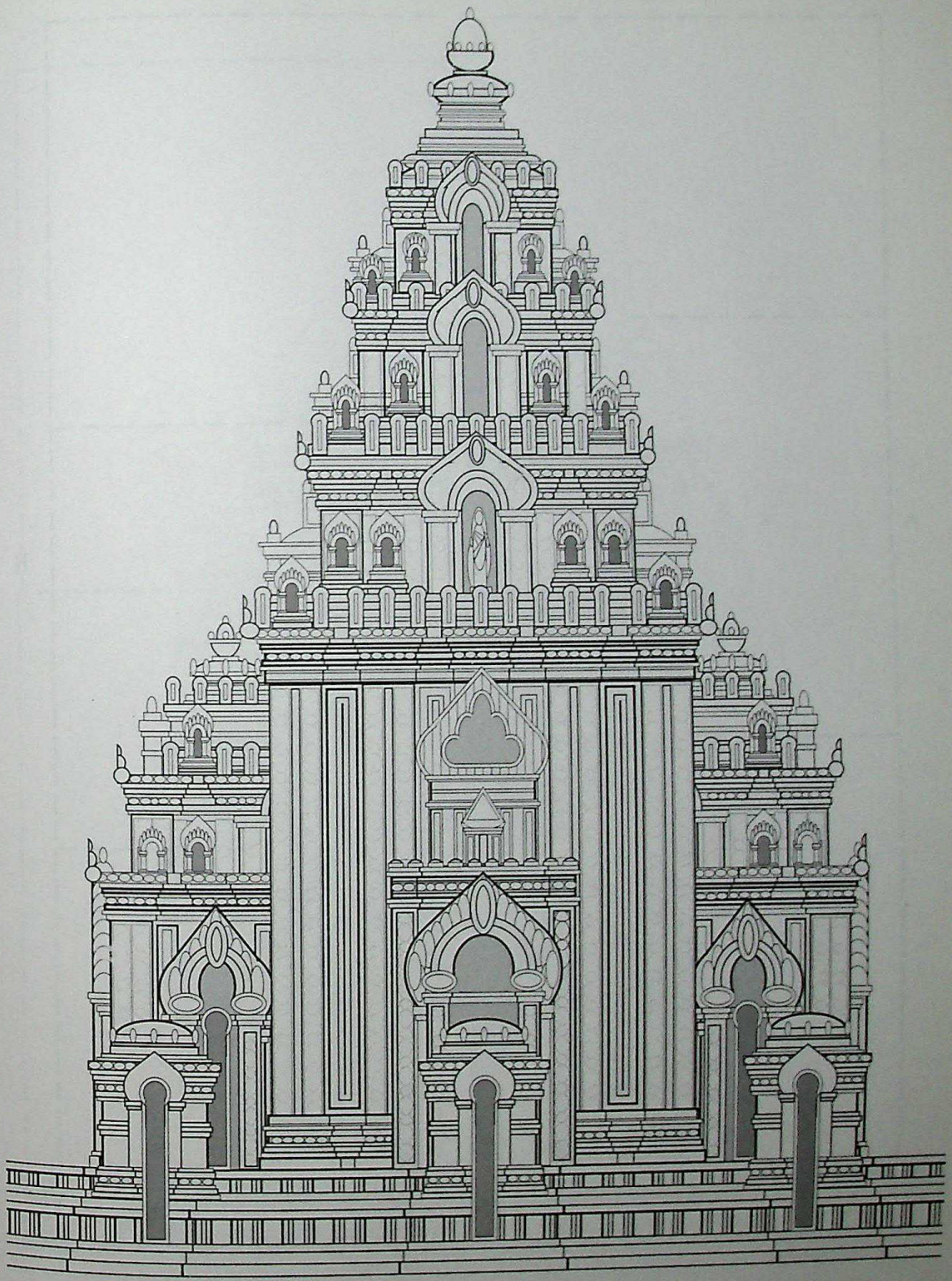
Plate 158 -- Elevation, *Lohaprasad, Wat Ratchanatdaram*
Bangkok , 1824-1850,



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

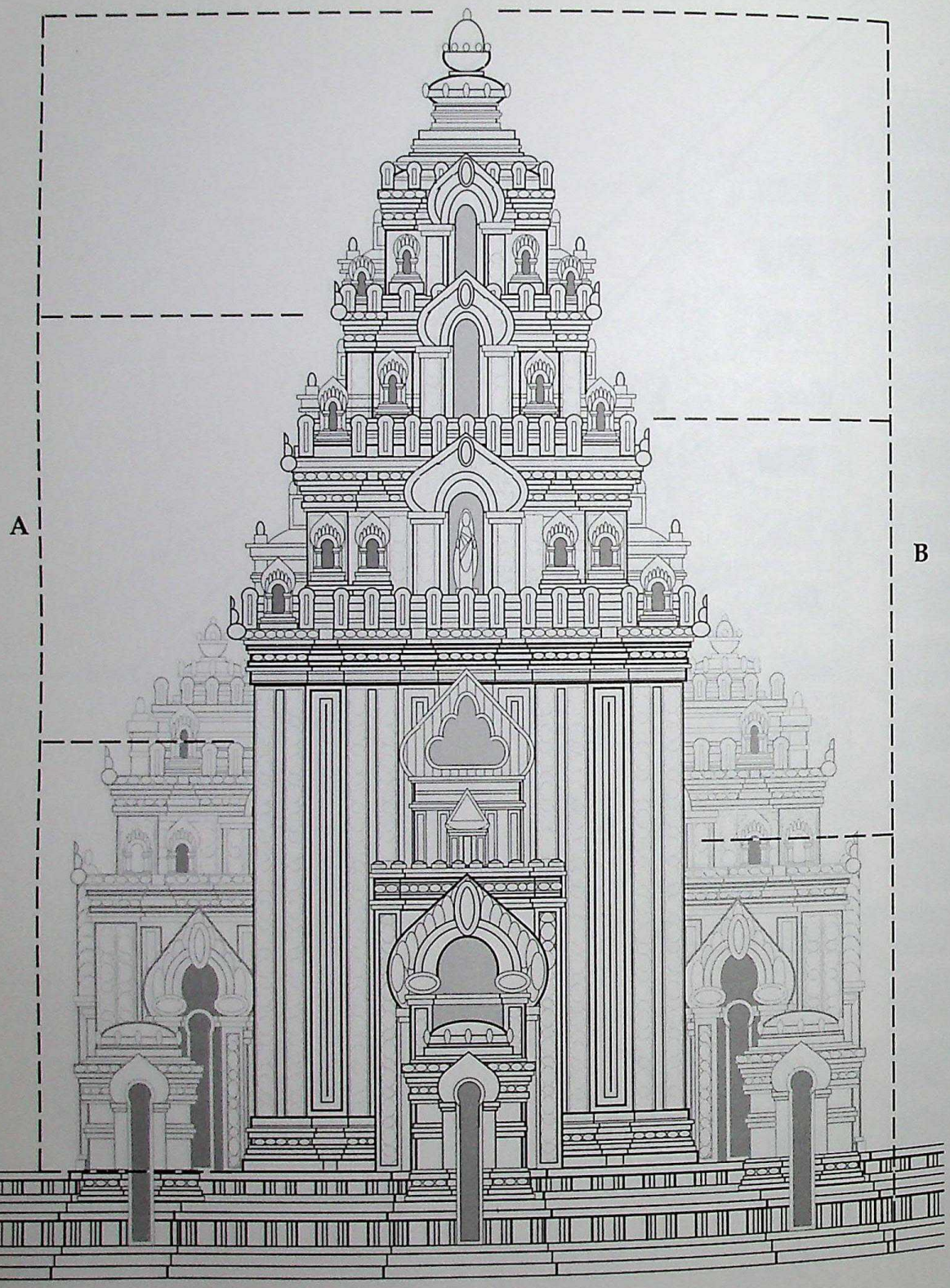
Plate 159 -- Elevation (proportional, proposed), *Temple A-1*, Mi Son, Vietnam (c. 930-40 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

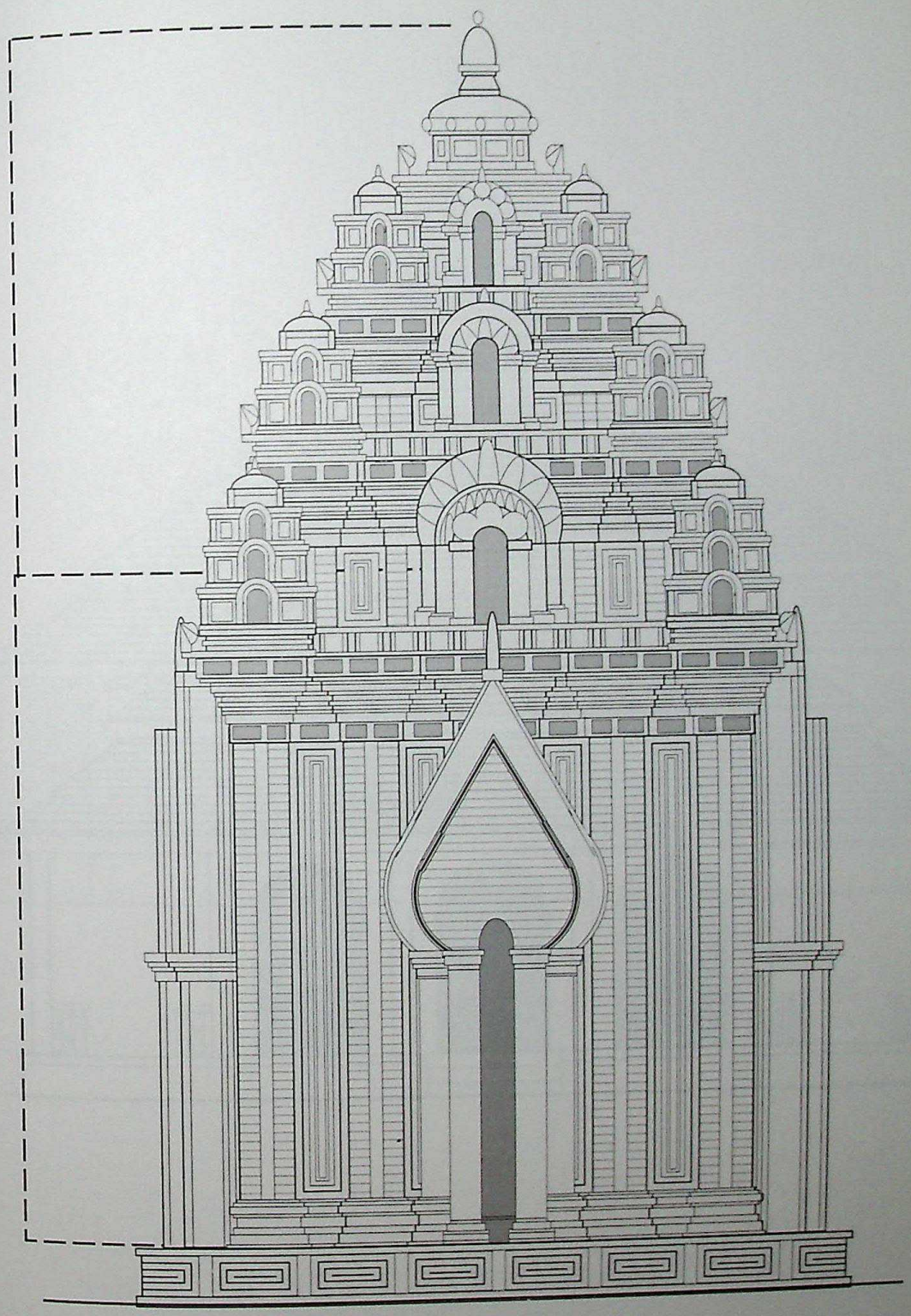
Plate 160 -- Elevation (proportional), *Temple A-1*, Mi Son, Vietnam (c. 930-40 CE)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

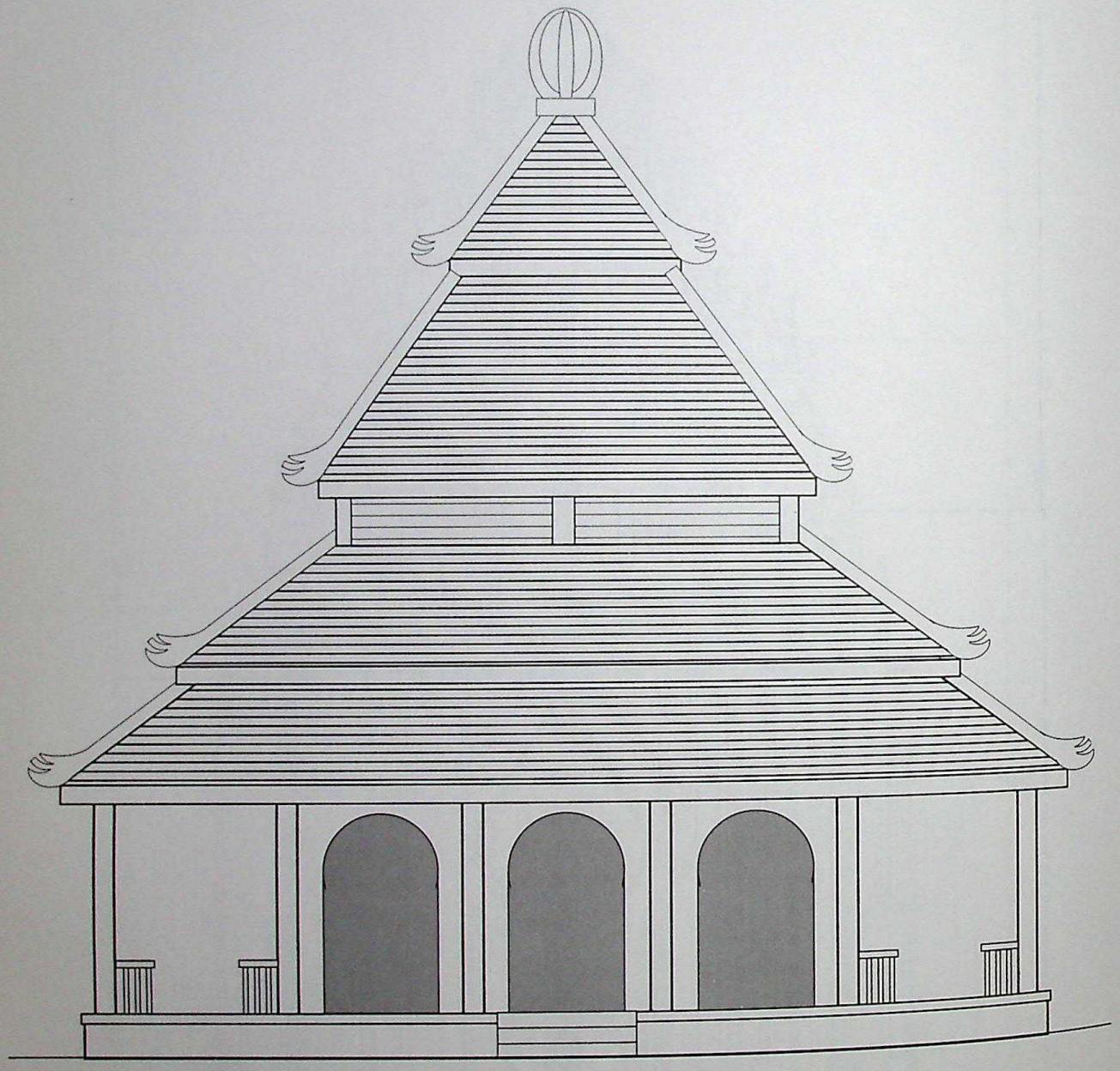
Plate 161 -- Elevation reconstruction (west), *Po Nagar,* Nha Trang, Vietnam (c. 1000-1025)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

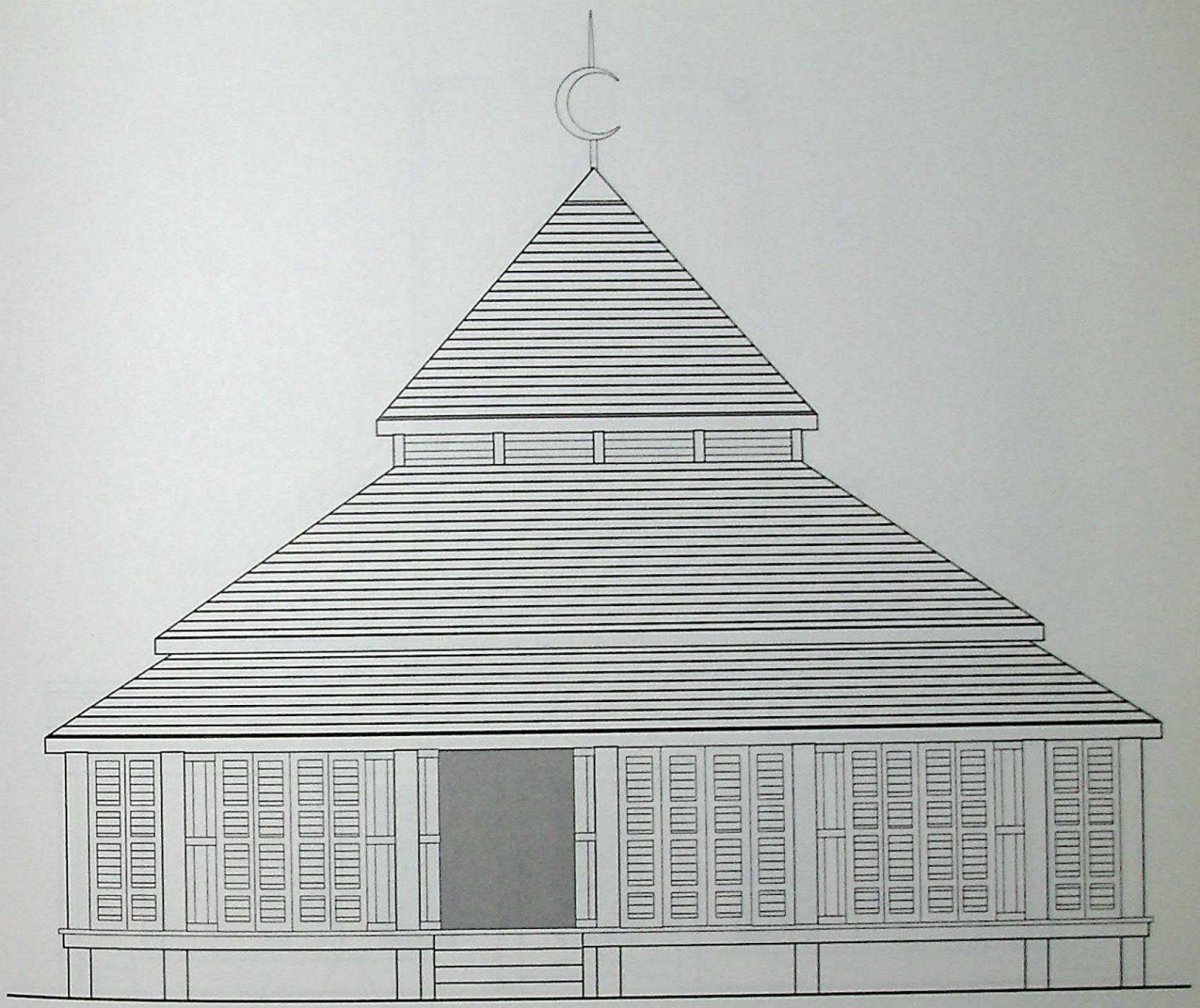
Plate 162 -- *Masjid Terenhkera* (Proportional), Malacca



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

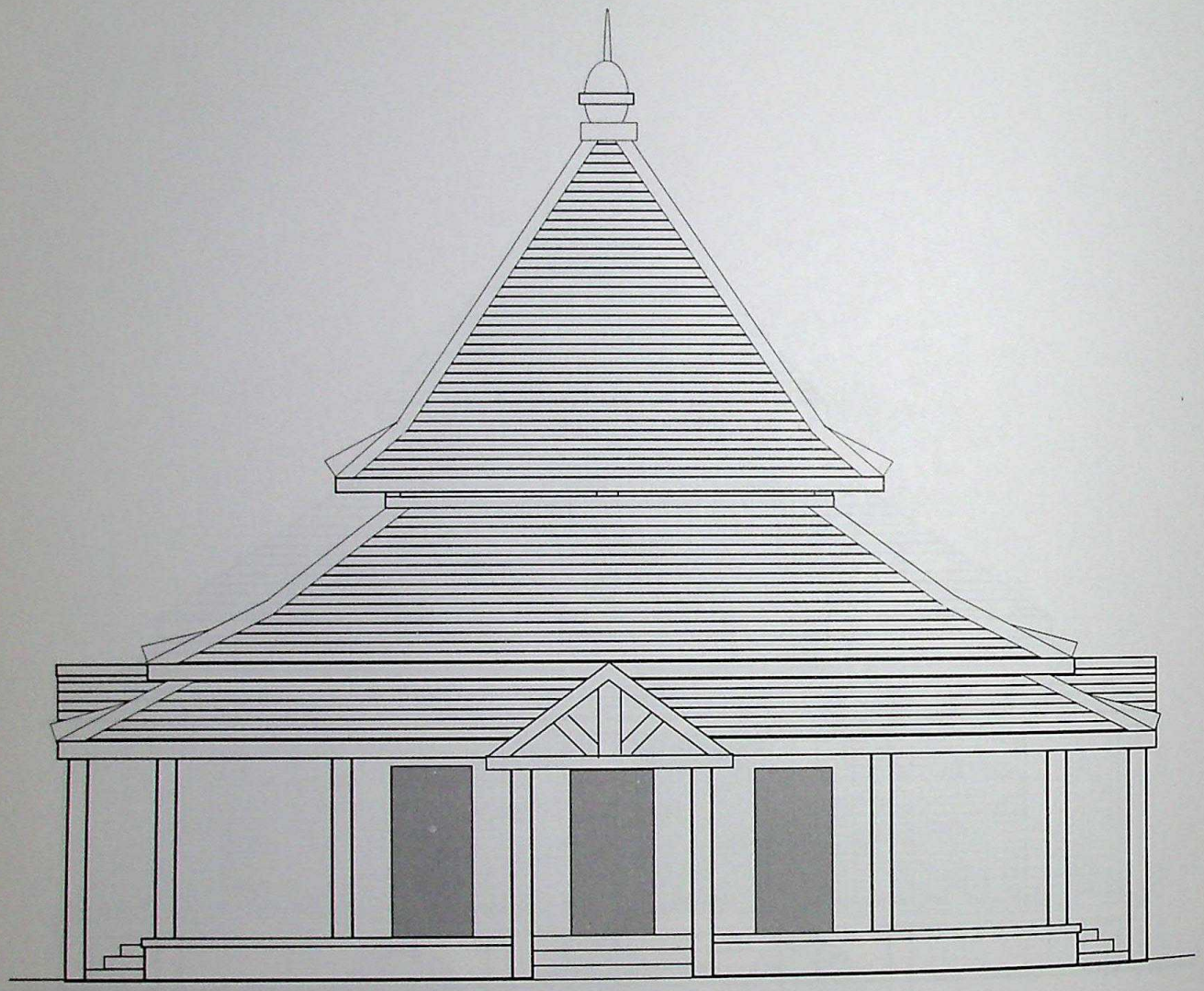
Plate 163 -- *Masjid Kampung Laut* (Proportional), Terengganu



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

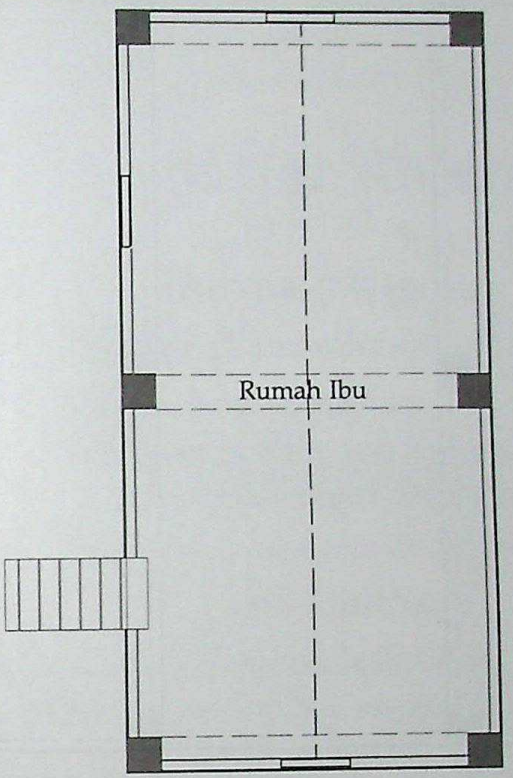
Plate 164 -- *Masjid Kampung Hulu* (Proportional), Malacca

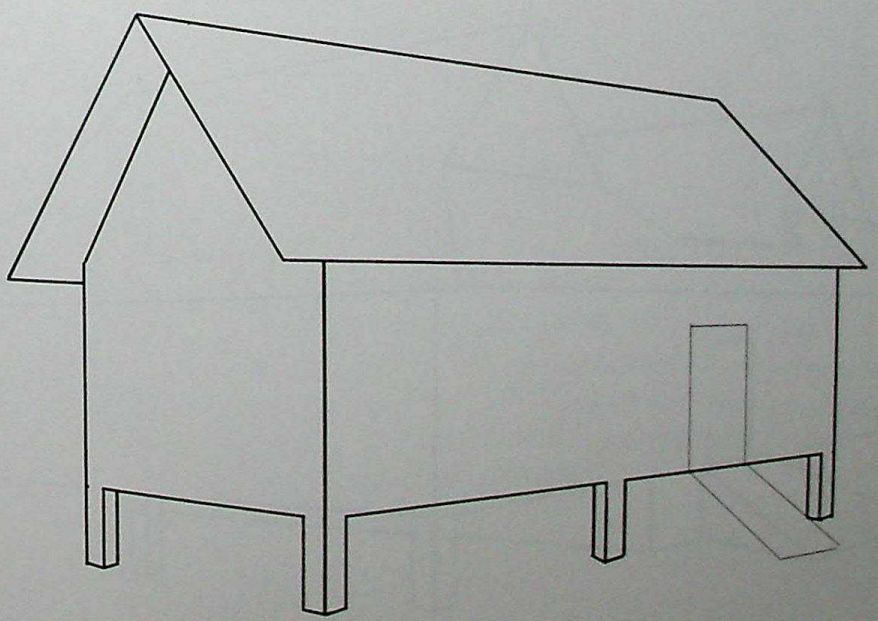


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 165 -- Plan and reconstruction, *Rumah Tiang Enam* (*Rumah Ibu* or *Rumah Bujang*)

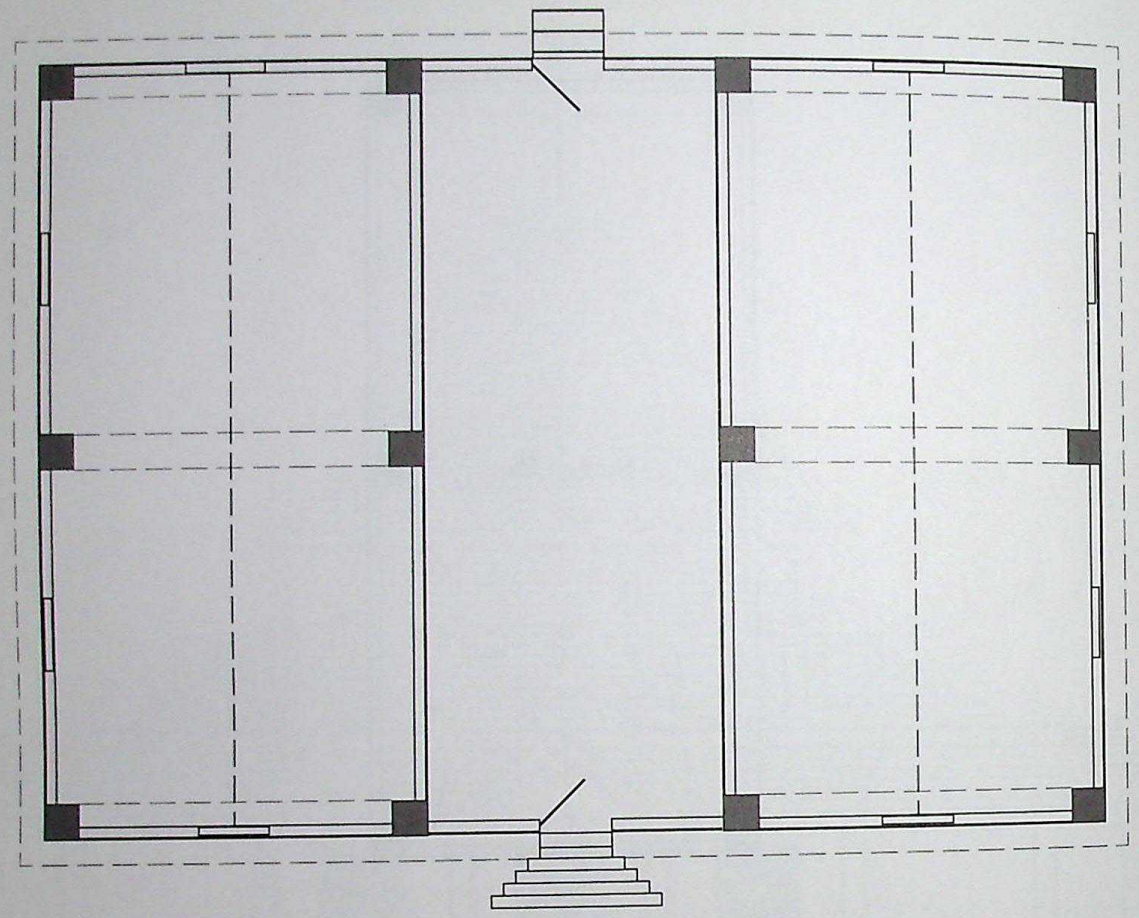


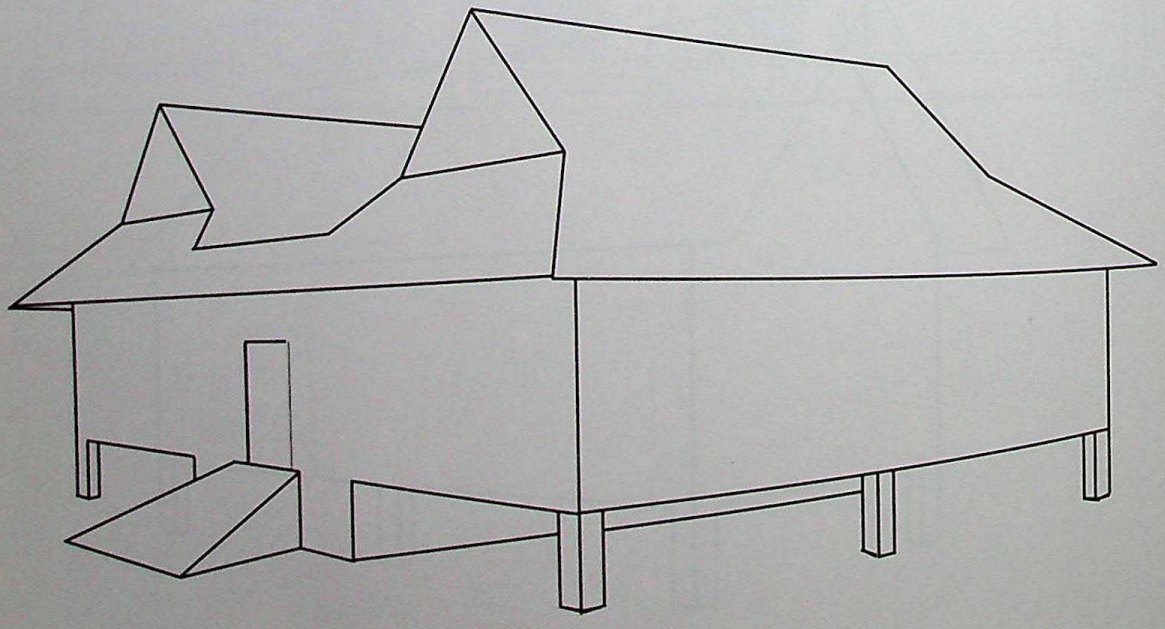


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 166-- Plan and reconstruction, *Malacca*-style House (with open court)





CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Appendix B

The Major Rulers of:

Burma (Myanmar),
Kambuja (Cambodia)(Khmer Empire),
India (Maurya, Shunga, Kanva, Andhra, Satavahana, Kushan, Gupta, Pallava, Chalukya, Rashtrakuta, Pala and Sena, Chola, Chandella, Hoysala, Sena and Mogul Dynasties)
Indonesia (Java & Sumatera),
Sri Lanka,
Thailand (Siam) (Kingdoms of Sukhothai, Chieng Mai, Ayutthaya, Thon Buri & Rattanakosin/Bangkok),
and
Viet Nam(Champa)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Burma

Tabengshweti	(?)
Mahashiasurasutammaraj	(?)

PAGAN (849-1287)

Anoratha (Anawratha or Aniruddha)	(1044-1077)
Saw Lu	(1077-1084)
Kyanzittha	(1084-1113)
Alangsithu	(1113-1167)
Narathu	(1167-1170)
Narapatisithu	(1173-1210)
Nantaungnya	(1211-1234)
Uzana ?	
Narathihapati	(1255-1287)

Mongol invasion

SAGAING (1315)

AVA (1363-1795)

Ang Chan	(c. 1507-1556)
Boyinnaung	(1550-1581)
Nandanaung (Nandabayin)	(1581-1599)
Anaukpetlun	(1605-1628)

1752 invasion of the Pegu and end of Toungoo dynasty

Aluangpaya	(1752-1760)
Naungdawgyi	(1760-1763)
Hsinbyushin (Mangra)	(1763-1776)

AMARAPURA (1795-1822)

Mentaragyi	
Badon (Badowpaya)	(1781-1819)

AVA (1822-1837)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Burma Dynasties Concluded

AMARAPURA (1837-1857)

MANDALAY (1857-)

Mindon	(1853-1878)
Thibaw	(1878-)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Kambuja (Cambodia)

KHMER

Bhavarman I	(?-?)	
Ishanavarman I	(616-638)	
Bhavarman II	(638- a. 656)	
Jayavarman I	(a. 656 - ?)	
Rajendravarman (I)	(? - b. 790)	

Empire

Jayavarman II	([790] 802-850)	Indrapura, Hariharalaya, Amarandrapura, Kulen
Jayavarman III	(854-877)	
Indravarman I	(877-889)	Hariharalaya
Yashovarman I	(889-910)	
Harshavarman I	(910-921)	Yashodharapura
Isanavarman II	(922-928)	(1st Angkor)
Jayavarman IV	(928-941)	
Harshavarman II	(941-944)	Koh Ker
Rajendravarman (II)	(944-968)	
Jayavarman V	(968-1001)	
Udayadityavarman I	(1001-1002?)	Yashodharapura
Jayaviravarman	(1002-1011?)	
Suryavarman I	(1001-1050)	
Udayadityavarman II	(1050-1066)	
Harshavarman III	(1066-1089?)	
Jayavarman VI	(1080-1113?)	
Dharanindravarman I	(1080-1113?)	
Suryavarman II	(1113-1150)	2nd Angkor
Dharanindravarman II	(1150-1160)	
Yashovarman II	(1160-1166)	
Tribhuvanadityavarman	(1166-?)	
Jayavarman VII	(1181-1219)	
Indravarman II	(1219-1243)	
Jayavarman VIII	(1243-1295)	3nd Angkor
Indravarman III?	(1295-1308)	
Srindravarman	(1300?-1307)	
Indrajayavarman	(1308-1327)	

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

India

MAURYA Dynasty
(322-c. 157 BCE)

Chandragupta	(324-300 BCE)
Bindusara (Nandasara, Bhadrasara)	(c. 300-273 BCE)
Ashoka	(c. 273-236 BCE)

Brahman Sources	(c. 236-c. 228 BCE)	Buddhist Sources
Kunala		Kunala
Bandhupalita (8 yrs.)		Samprati
Indrapalita (?)		Brihaspati
Dachona (7 yrs.)		Vrishasena
Dacharatha (8 yrs.)		Pushyadharma
Samprati (Sangata) (9 yrs.)		Pushyamitra
Chalichuka (13 yrs.)		
Devadharman (Devavarman, Somacharman) (7 yrs)		
Chatadhanvan (Chachadharman) (8 yrs)		
Brihadratha (2 yrs)		

SHUNGA Dynasty
(185-c. 72 BCE)

Pushyamitra (36 yrs.)	(c. 185- BCE)
Agnimitra (8 yrs.)	
Vasujyeshtha (7 yrs)	
Vasumitra (Sumitra) (10 yrs.)	
Odrka (Andhraka) (2 or 7 yrs.)	
Pulindaka (3 yrs.)	
Ghosha (3 yrs.)	
Vajramitra (7 or 9 yrs.)	
Bhaga (Bhagavata) (32 yrs)	
Devabhuti (10 yrs.)	

KANVA Dynasty
(75-30 BCE)

Early ANDHRA Dynasty
(75 BCE-50 CE)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

India Dynasties Continued

SATAVAHANA Dynasty
(220 BCE-236CE)

KUSHAN Dynasty
(c. 1-320 CE)

Kushana (Kadaphises)	(c. 1- c. 40 CE)
Wema Kadaphises	(c. 40 - 77)
Kanishka	(78-101)
Vasishka	(102-106)
Huvishka	(106-138)
Vasudeva	(138-176)

Late ANDHRA Dynasty
(c. 50 CE-320 CE)

GUPTA Dynasty
(320-600)

Chandragupta II	(376-413)
Kumaragupta	(413-455)

PALLAVA Dynasty
early (b. 600 CE)[1]

Simhavarman
Shivaskandavarmn (Skandavarman, Dharma-Maharaja)
Bappa
Vijayaskandavarman
Buddhavarman
Buddhyankura
Vishnugupta
Nandivarman I
Asokavarman
Chutu-Pallava

late(a. 600 CE)

Simhavarman	(c. 550-600)
Simhavishnu (Avanisimha)	(c. 600)
Mahendravarman I	(600-630)
Narasimhavarman I	(630-668)
Mahendravarman II	(668-670)
Parameshvaravarman I	(670-700)
Narasimhavarman II	

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(Rajasimha)	(700-728)
Parameshvaravarman II	(728-731)
Nandivarman II Pallavamalla	(731-796)
Dantivarman I	(796-847)
Nandivarman III	(847-869)
Nirupatguna	(869-885)
Aparajita	(885-899)
Kampavarman	(899-912)

Early CHALUKYA Dynasty
(543-752)

Pulakesin I	(543-566)
Kirttivarman I	(566-597)
Mangalesa	(597-610)
Pulakesin II	(610-642)
Pallava ascendency (642-654)	
Vikramaditya I	(654-681)
Vinayaditya	(681-696)
Vijayaditya	(696-733)
Vikramaditya II	(733-744)
Kirttivarman II	(744-752)

RASHTRAKUTA Dynasty
(543-973)

Krishna I	(760-800)

PALA & SENA Dynasties
(750-1196)

CHOLA (Sangam) Dynasty
(2nd C. CE-6th C. CE)

Uruvappahrer Ilam Set Senni
(Ilan-jet-chenni)
Karikalan (Karikal)

Uraiyur Branch
Manakkilli
Nendunkilli (Nedu-mudu-killi)
Perunar Killi (e. 3rd C. CE)
Tittan
Perunarkilli
Koperum Chola

Puhar Brnch
Killivalavan
Nalamkilli

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sengagnan (6th C. CE)

CHOLA (Vijayalaya) Dynasty (850-1071)

Vijayalaya	(850-871)
Aditya-raja I	(c. 871-907)
Parantaka I	(907-955)
Gandaraditya	(950-957)*
Arinjaya	(956-957)
Parantaka II Sundara Chola	(956-973)
Aditya II Karikala	(956-969)
Madurankaka Uttama Chola	(973-985)
Rajaraja I	(985-1014)
Rajendra Chola I	(1012-1044)
Rajadhiraja I	(1018-1054)
Rajendra II	(1052-1064)
Virarajendra	(1063-1070)
Adhirajendra	(1070-1071)

CHOLA (Chalukya) Dynasty (1072-1279)

Kulottunga I	(1071-1122)
Vikrama Chola	(1118-1135)
Kulottunga II	(1133-1150)
Rajaraja II	(1146-1173)
Rajadhiraja II	(1163-1166 & 1179-1182)
Kulottunga III	(1178-1217/1218)
Rajaraja III	(1216-1260)
Rajendra III	(1246-1279)

CHANDELLA Dynasty (950-1050)

Late CHALUKYA (Eastern) Dynasty (624-1061)

Kubja Vishnuvardhana I	(624-641)
Jayasimha I	(641-673)
Indra Bhattaraka	(673)
Vishnuvardhana II	(673-682)
Mangi Yuraraja	(682-706)
Jayasimha II	(706-718)
Kokkilli	(719)
Vishnuvardhana III	(719-755)

* The Chola Dynasty (Vijayalaya and Chalukya branches) had a system of co-rulers, sometimes called "Crown Princes" similar to the practice of the Thais. In this system they would co-rule with the Emperor until his death and then rule in their own right.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Vijayaditya I	(755-772)
Vishnuvardhana IV	(772-808)
Vijayaditya II	(808-847)
Vishnuvardhana V	(847-849)
Gunaga Vijayaditya III	(849-892)
Chalukya Bhima I	(892-921)
Vijayaditya IV	(921)
Amma I	(921-927)
Tala	(927)
Beta Vijayaditya	(927)
Vikramaditya II	(927-928)
Bhima II	(928)
Yuddhamalla II	(928-935)
Chalukya Bhima II	(935-947)
Amma II	(947-970)
Danarnava	(970-971)
interregnum	
Saktivarman I	(1000-1011)
Vimaladitya	(1011-1018)
Rajaraja Narendra	(1019-1061)
Rajendra (Kulottinga)	

(See Kulottinga I [1071-1122] above)

Late CHALUKYA (Western) Dynasty
(973-1200)

Tala II	(973-997)
Satyasraya	(997-1008)
Vikramaditya V	(1008-1015)
Ayyana	(1015)
Jayasimha II	(1015-1042)
Someshvara I	(1042-1068)
Someshvara II	(1068-1076)
Vikramaditya VI	((1076-1126)
Someshvara III	(1126-1138)
Jagadekamalla II	(1138-1151)
Tailapa III	(1151-1163)
Jagadekamalla III	(1163-1183)
Someshvara IV	(1184-1200)

HOYSALA Dynasty
(1111-1310)

Vishnuvardhana	(1106-1141)

SENA Dynasty
(1150-1199)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

MOGUL Dynasty
(1526-1857)

Akbar	(1556-1605)
Jahangir	(1605-1627)
Shah Jahan	(1628-1658)
Aurangzib	(1658-1707)
Bahadur Shah	(1708-
Jahandar Shah (assassinated)	
Farrukhsiyar (assassinated)	
Muhammad Shah	(1719-1748)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Indonesia

(Java & Sumatera)

SRIVIJAYA Kingdom (Sumatera)

SANJAYA Dynasty (Hindu, Java)

Sanjaya	(732-c. 760)
Panongkaran	(c. 760- c. 780)
Panunggalan	(c. 780-c. 800)
Warak	(c. 800-b. 819)
Garung (Patapan?)	(819-b. 842)
Pikatan	(842-b. 856)
Kayuwani	(856-b. 882)

SHAILENDRA Dynasty (Buddhist, Java)

Bhanu	(752-?)
Dharmatunga1	(775-782)
Sangramadhanomjaya2	(782- b. 824)
Samaratunga	(824-832)

MATARAM Dynasty ([Central Java)[?-930]

Balitung	(-910)
Daksha	(910-919)

SINGHASARI Dynasty (east Java) (1222-1293)

Vishnuvardhana
Airlangga

MAKAPAHIT Dynasty (1293-1520)

Sri Ranggah Rajasa (Ken Angrok)	(1222-1227 CE)
Anusapati	(1227-1248)
Jaya Vishnuvardhana (Ranggavuni)	(1248-1268)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Java Dynasties Concluded

Kritanagara	(1268-1292)
Kritarajasa Jayavarddhana (Raden Vijaya)	(1293-1309)
Jayanagara	(1309-1328)
Tribhuvana Vijayottunggadewi (Jayavishnuvardhana)	(1328-1350)
Rajasanagara (Hyam Vuruk)	(1350-1389)
Vikarmavarddhana (Hyang Visesa)	(1389-1427)
Suhita (queen)	(1427-1447)
Sri Kritavijaya (Dyah Kritavijaya)	(1447-1451)
Rajasarvaddhana (Sang Sinagara)	(1451-1453)
Girivarddhana (Hyang Purvavisesa)	(456-1466)
Singhavikarmavarddhana (Bhre Pandan Salas)	(1466-1474)
Girindravarddhana	(1474-1519)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sri Lanka

Vijaya	(483-445 BCE)	
interregnum (445-444 BCE)		
Pandu-Vasudeva	(444-414)	
Abhaya	(c. 414-394)	
interregnum (394-377 BCE)		
Pandukabhaya	(377-307)	
Mutashiva	(307-247)	
Devanampiya Tissa	(247-207)	
Uttiya	(207-197)	
Mahashiva	(c. 197-187)	
Sura Tissa (Suvannapinda Tissa)	(c. 187-177)	
Sena & Guttaka	(177-155)	
Asela	(155-145)	
Elara	(145-101)	
Vattagamani (Duttha-Gamani)	(101-77)	
Saddha Tissa	(77-59)	
Thulathana	(59)	
Lanja Tissa	(59-50)	
Khallatanaga	(50-44)	
Vattagamani Abhaya	(44)	
<u>Tamil usurpers</u>		
Pulahattha	(3 yrs)	
Bahiya	(2 yrs.)	
Panayamara	(7 yrs)	
Pilayamara	(7 mos.)	
Dathika	(27yrs)	
Vattagamani Abhaya	(29-17)	
Mahachuli-Mahatissa	(17-3 BCE)	
Choranaga	(c. 3 BCE- 9 CE)	
Tissa (Kuda Tissa)	(c. 9-12 CE)	
<u>King consorts of Queen Anula</u>		
Shiva	(14 mos.)	
Vatuka	(14 mos.)	
Tissa	(13 mos.)	(12-16 CE)
Niliya	(6 mos.)	
Queen Anula	(4 mos.)	
Kutakanna Tissa	(c. 16-38)	
Gajabahu I	(2nd C. CE)	
Mahasena	(274-301)	
Sirimeghavanna	(301-331)	

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sri Lanka Dynasties Concluded

Mahanama	(410-432)
Dhatusena	(459-477)
Kassapa I	(477-495)
Moggallana I	(495-515)
Aggabodhi II	(608-618)
Manavamma	(684-718)
Mahinda II	(777-797)
Sena I	(833-853)
Sena II	(853-887)
Mahinda V	(982-1029)
Vijayabahu	(1055- ?)
Parakramabahu I	(1153-1186)
Nissamkamalla	(1187-1196)
Kalinga Vijaya-Bahu	(1213-1234)
Vijaya Bahu III	(1231-1265)
Vijaya Bahu IV	(1266-1268)
Bhuvaneka Bahu I	(1268-1279)
interregnum (1279-1281 CE)	
Parakramabahu III	(1281-1288)
Bhuvaneka Bahu II	(1288-1290)
Parakramabahu IV	(1291-1326)
Parakramabahu VI	(1412-1467)
Dran Dharma	(1610-1628)
Vimaladharmasuriya	(1687-1707)
Vijaya Rajasimha	(1737-1747)
Kiri Sri Rajasimha	(1747-1780)
Sri Vikrama Rajasimha	(1796-1815)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Thailand (Siam)

HARIPUNCHAI

Queen Chama Thewi (Devi)	(c. 800-825)
Athitaraja	(1120-1150)
Mangrai (Meng Rai)	(1281-1317)

CHIANG MAI [Lanna (La Na) Thai])

Phang	(?)
Khun Chuang	(mid 12th C -1172)
Meng Rai	(1259-1317)
Khun Kham	(1317-)
Saen Phu*	(1318-1319)
?	
?	
?	
Saen Phu*	(1324-1328)
Kham Fu	(1328-37)
Pha Yu	(1337-1355)
Ku Na (Gu Na)	(1355-1385)
Saen Muang Ma	(1385-1401)
Sam Fang Kaen	(1401-1441)
Tilokaracha (Tiloka-raja)	(1441-1487)
Yot Chiang Rai	(1487-1495)
Muang Kaeo	(1495-1526)
Ket Chettharat**	(1526-1538)
Chai	(1534-1543)
Ket Chettharat**	(1543-1545)
Q. Chiraprapha	(1545-1546)
Setthathirat	(1546-1551)
Thao Mae Ku	(1551)
Mekuti	(1551-1564)
(Burmese puppets)	
Tharrawaddy Prince	(? --1607)
Thadogyaw	(1613- ?)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

SUKHOTHAI

(Phra Ruang Dynasty)

Sri Intratit	(1238-1270's)
Ban Muang	(1270's -1279)
Ramkamhaeng (Ram Kamheng) The Great	(1279-1300)
Loethai (Lo Thai)	(1299-1346)
Ngua Nam Thom	(1346-1347)
Tamaraja I (Mahadharmraja or Brana Lidaiya or Li Thai)	(1347-between 1368 to 1374)
Tamaraja II	(between 1368 to 1374-1399)
Tamaraja III	(1399-1419)
Tamaraja IV	(1419-1438)

AYUTTHAYA

(U-Thong Dynasty)

Ramathibodi (Ramadhipati, Prince U-tong) I	(1350-1369)
Ramesuan* (Rameshvara)	(1369-1370)
Ramesuan*	(1388-1395)
Ramraja	(1395-1409)

(Suphannaphum Dynasty)

Boromaraja I (Borom Rachathirat or Paramarajadhiraja)	(1370-1388)
Tonglun (Thong Chan)	(1388)
Intraja (Nakarin)	(1409-1424)
Boromaraja II	(1424-1448)
Borom Trialok (Paramatrailokanatha)	(1448-1488)
Boromaraja III	(1488-1491)
Ramathibodi II	(1491-1529)
Boromaraja IV	(1529-1533)
Prajairaja	(1534-1546)
Ratsadatiratkumar	(1533)
Keofa	(1546-1548)
Sirsin	(1548)
Mahachakrapat	(1548-1569)
Mahin	(1569)

(Maha Tammaraja Dynasty)

Mahatammaraja	(1569-1590)
Naresuan, The Great	(1590-1605)
Ekatotsarot	(1605-1610)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Thai Dynasties Concluded

Srisaowapak	(1610)
Songtam	(1610-1628)
Jettatirat	(1620-1629)
Atityawong	(1629)

(Phrasattong Dynasty)

Phrasat Tong (Prasada Tong)	(1629-1656)
Srisutammaraja	(1656)
Chao Fa Jai	(1655-1656)
Narai (Narayana)	(1656-1688)

(Ban Plu Luang Dynasty)

Phra Petraja	(1688-1703)
Sanpet VIII	(1703-1709)
Taisra (Tai Sa)	(1709-1733)
Boromakot (Paramakosha)	(1733-1758)
Utumporn	(1758)
Ekatat	(1758-1767)

THON BURI

Thaksin	(1767-1782)

RATTANAKOSIN (Bangkok)

(Chakri Dynasty)

Rama I (Chakri)	(1792-1809)
Rama II (Istarasunthon)	(1809-1824)
Rama III (Nangklao)	(1824-1851)
Rama IV (Mongkut)	(1851-1868)
Rama V (Chulalongkorn), The Great	(1868-1910)
Rama VI (Vajiravudh)	(1910-1925)
Rama VII (Prajadhipok)	(1925-1935)
Rama VIII (Ananda)	(1935-1946)
Rama IX (Bhumibol)	(1946-)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Viet Nam

(Champa)

Bhadravarman Sambhuvarman	(c. 572-629)
Prakashadharma	(c. 653-686)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Appendix C

A Chronology
of:
India, Sri Lanka, Indonesia, Cambodia, Burma (Myanmar), Thailand
and **Viet Nam**

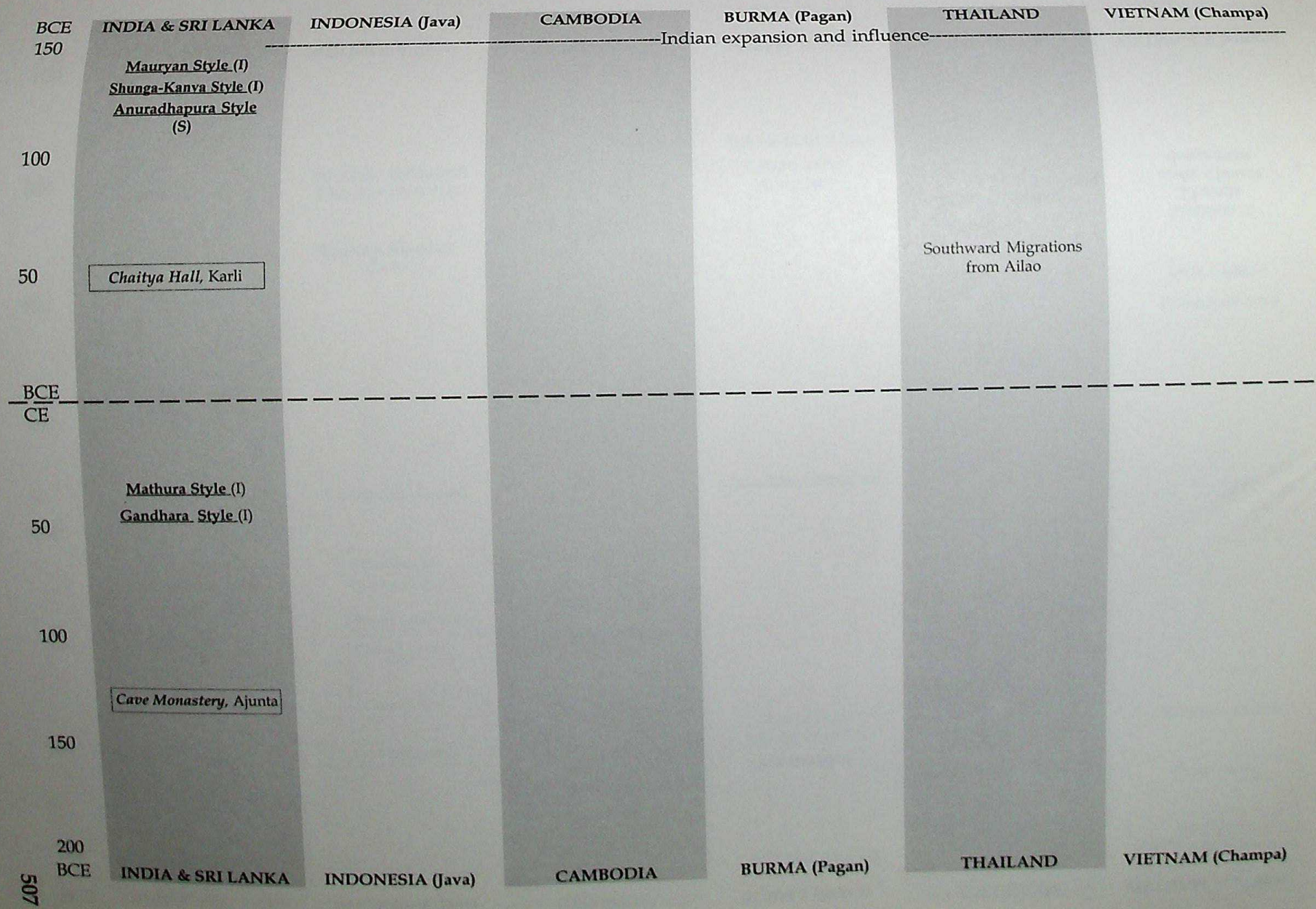
Including: major monuments, monuments, styles and political events.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

BCE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)
500	▲ *Mohenjo-daro* 2500-1200 BCE					
450						
400						
350						
300	*Mauryan Style* (I)					
250	ASHOKA introduces Buddhism into Indochina					
	Stupa I					
200						
	Indian expansion and influence					
150 BCE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

BCE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)
200	*Gandhara Style* (I) *Amuradhapura Style* (S)					
250				Pyu Kingdom		
300	*Gupta Style* (I)					
350						
400						
450	*Ladh Khan*					
500	*Durga* Temple				Mon Kingdom of Dvaravati	Kingdom of Champa under Chinese domination
550 CE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

BCE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)
550			Chen-la Kingdom		Thai Kingdom of Chieng Saen	
600		Sri-Vijaya (Sailendra) Kingdom (Sumatra)		Srikshetra Kingdom Ramannadesa Kingdom		
650	*Pallava Style* (I)	Mataram Kingdom (Java)			Mon Kingdom of Haripunjaya Kingdom of Sri Vijaya (S. Thailand)	Early Champa Prakashadharma
700	*Rachtrakuta* (I) Muslim incursions					
750	*Pala* (I)	Central Java Period		Nan-Tchao Kingdom	Great Migrations from Nanchao	*Pho-hai*
800	*Shiva Temple*, Indor	*Borobudur* Dharmatunga *Chandi Lumbung* *Chandi Sewu*	Jayavarman II Angkor Khmer Kingdom			
850	*Shiva Temple*,Polpulli	*Chandi Sari* *Loro Jonggrang*		Rise of Pagan Beginnings of Pegu		Indrapura Period
900	*Chola* (I)		*Preah Ko* *Bakong* *Bakheng*			*Dong-Duong* *Khuong-my*
CE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

BCE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)
900	*Anuradhapura Style* (S)	Eastern Java Period	Angkor Khmer Kingdom	Sriksetra Kingdom		Indrapura Period
				Pagan Kingdom		Khuong-my
	Subrahmanya Temple, Manjeri			*Nat-Hlaung-Kyaung*		
950	*Kilatali Temple*, Thiruvanchikula					
			Ta Keo			
1000	*Polonnaruwa Anuradhapura Style* (S)				Dvaravati falls to Khmers *Lop Buri Style*	No. Champa falls to Annam(980) Vijaya Indrapura Period
			Phimai Temple, Thailand			
1050			*Banteay Samre*	*Nan-Hpaya*		
			Baphuon	*Myin-Pya-Gu*		
	Brahmeshvara Temple			*Shwe-Zigon Pagoda*		
1100	*Vatadage*, Polonnaruwa			*Naga-Yon*		
	Moghul Domination (I)		Suryavarman II	Anoratha		
	Tivanka Pilimage, Polonnaruwa		*Angkor Wat*	*Ananda Temple*		
1150						Dominater by the Khmers
				Dhamma-Yan-Gyi	Chieng Saen falls to Mons	
				That-Byin-Nyu		
			Jayavarman VII			
1200	Mamelokes (I)		*Bayon*	*Dhamma-Yazika*		
				Somin-Gyi-Ok-Kyaung	Kingdoms of Sukhothai & Chieng Mai	
		Singhasari Dynasty	war with Ayutthaya	*Gawdaw-Palin*	Sukhothai free from Khmers	
				Myinkaba Kubyauk-Nge	*Chedi Wat Kukut*	
1250			Thai dominance	*Bogyoke-Mi Kubyauk*		
CE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)

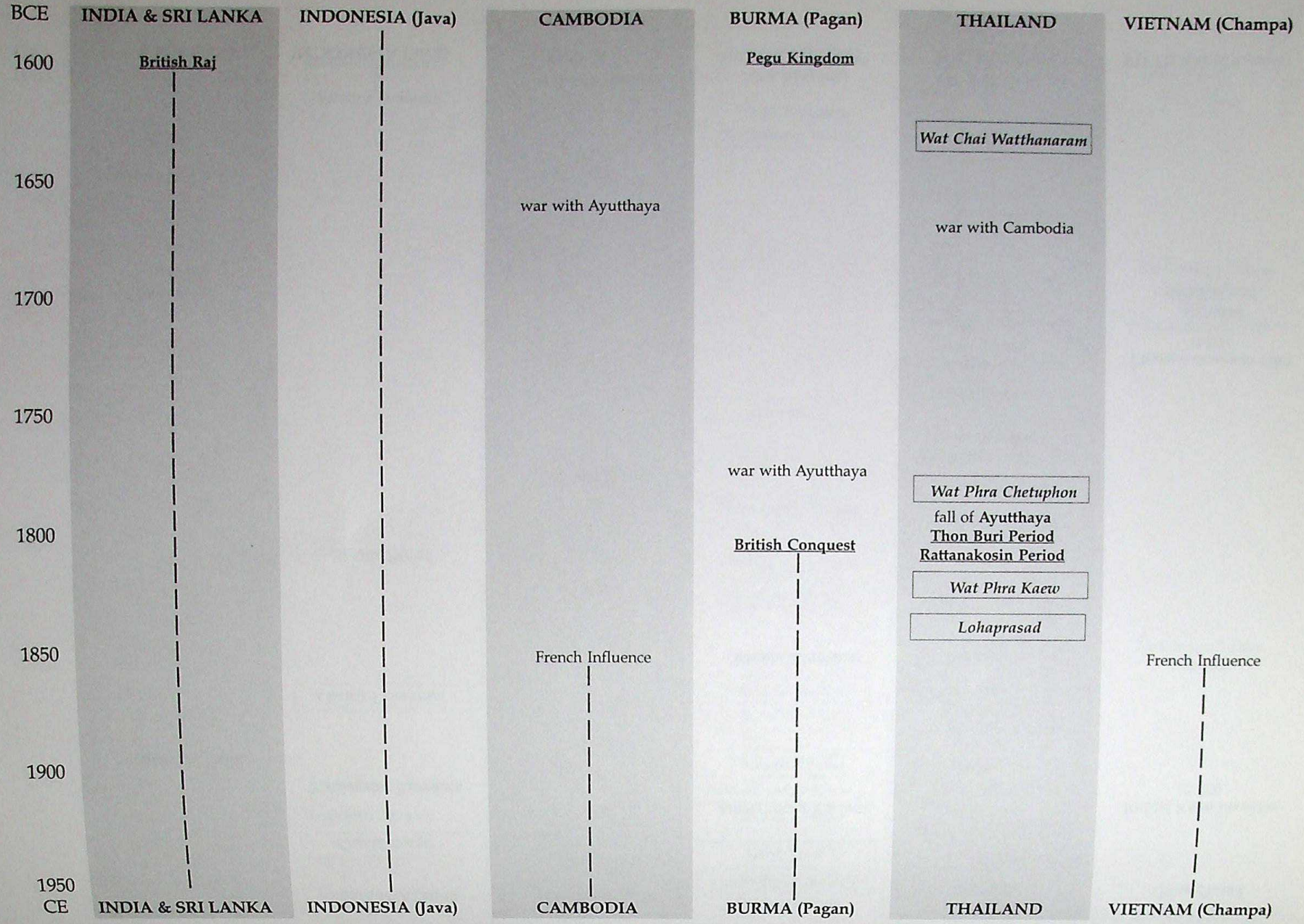
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

BCE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)
		Eastern Java Period	Thai dominance	Pagan Kingdom	Kingdom of Sukhothai	Vijaya Period
1250				*Bogyoke-Mi Kubyauk*		
		Chandi Djago		*Paya-Thon-Zu*	*Chedi Wat Chang Lom*	
		Madjapahit Kingdom		Amarapura Kingdom		Kublai Khan Invasion (1283)
1300					Sri Vijaya falls to Sukhothai	
	Sultanate of Delhi				*Wat Phra Chao Phanan Choeng*	
	Kotilal Fort				*Wat Mahathat, Sukhothai*	
		Chandi Panataran				
1350				Taungu Kingdom	Thai Kingdom of Ayutthaya	
					Wat Phra Si Rattana Mahathat	
		Islamic Period			*Wat Phra Ram*	
1400					*Wat Ratchaburana*	
			Cambodia Period			
					Sukhothai assimilated by Ayutthaya	
1450						
					Wat Chedi Chet Yot	
					Siam as known to Europe	Champa ceases to exist (1471)
					Wat Phra Si Sanphet	ANNAM (VIET NAM)
1500	Vijayanagar (Moghul)(I)					
					Chieng Mai falls to Ayutthaya	
1550	Akhbar the Great					
					Chedi Wat Phukhao Thong	
		Dutch Conquests	war with Ayutthaya	Pegu Kingdom	war with Cambodia	
1600 CE	INDIA & SRI LANKA	INDONESIA (Java)	CAMBODIA	BURMA (Pagan)	THAILAND	VIETNAM (Champa)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Digitized by Arya Samaj Foundation Chennai and eGangotri

Appendix D

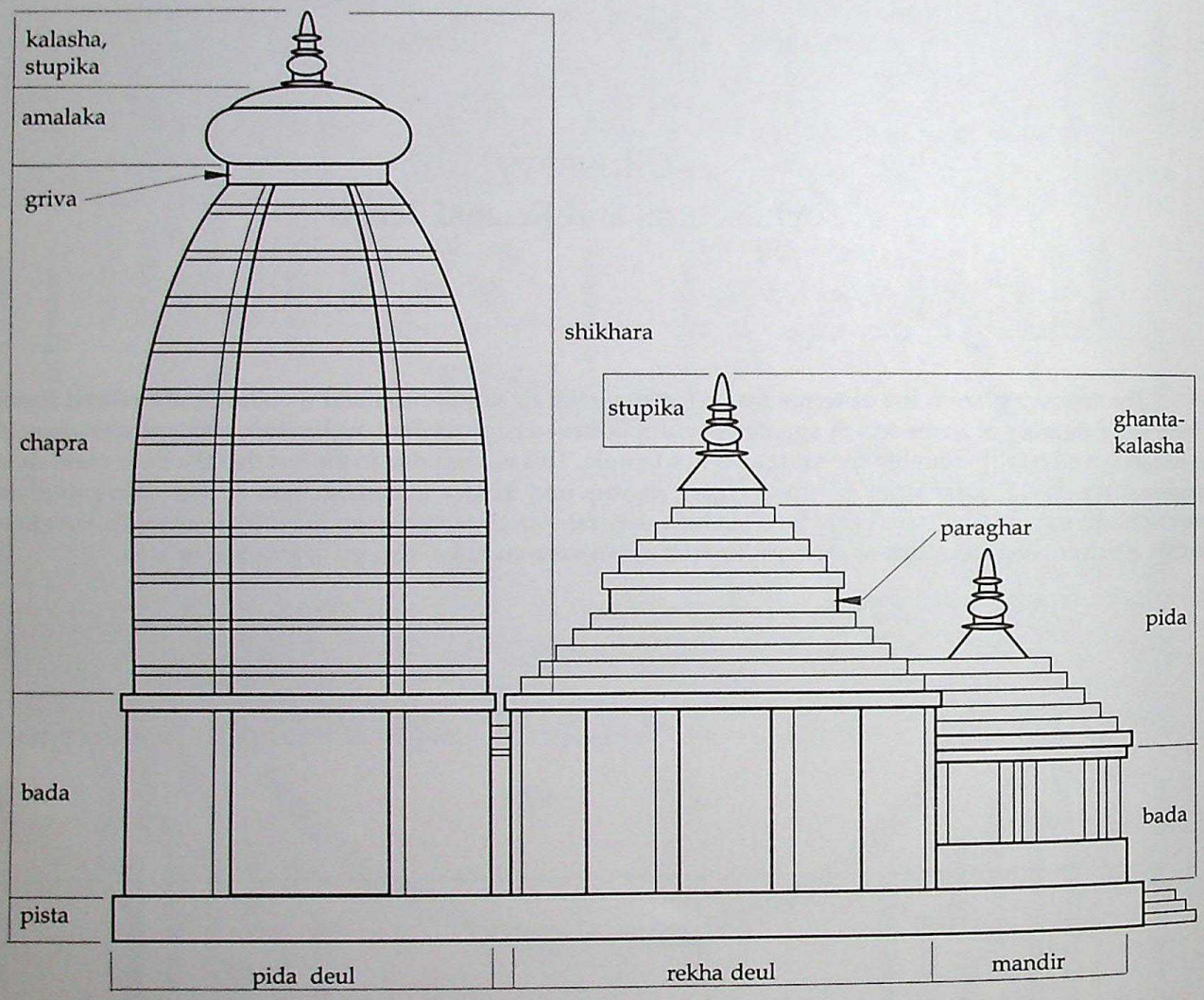
A Glossary
of Architectural and Related Terms

The following are a list of terms that refer generally to architecture and architecturally related forms. There are a number of terms which appear to be duplicates--e.g., *jagamohan, mukhashala, mantapa, nrittamantapa* or *navaranga* all refer to roughly the same area in a temple. This is often due to the fact that the three main styles (regional types)--i.e, **Dravidian** (south), **Nagara** (north), and **Vesara** (a combination of both previous styles prevalent during the Chalyuka period)--often have separate vocabularies. In addition there are often variations within a culture--e.g., *mandapa* or *mantapa*--as well as between cultures--e.g., *gu* or *ku*, *chedi* or *zeidi*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

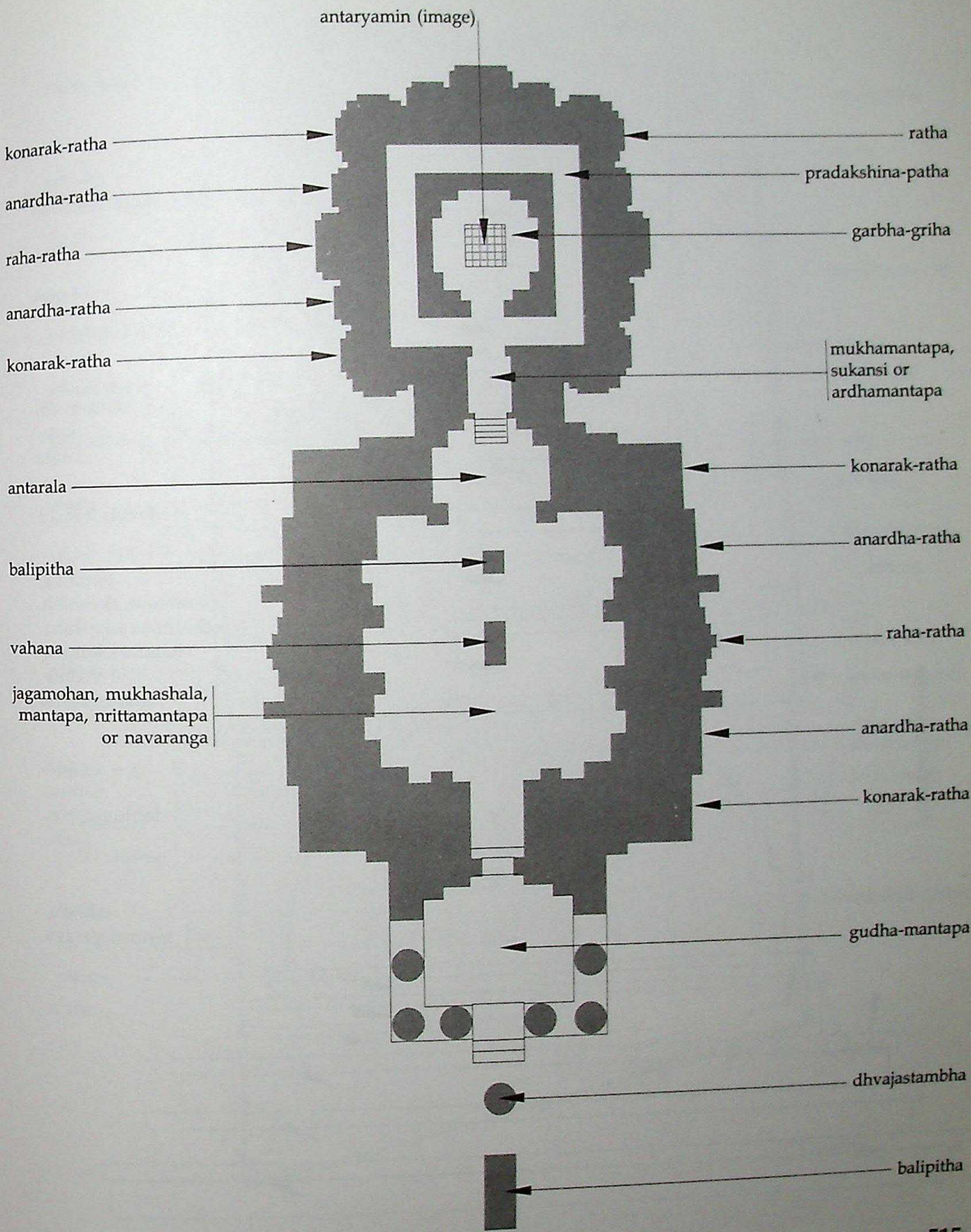
Plate 167 -- Indian Temple Elevation, identifying various elements



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

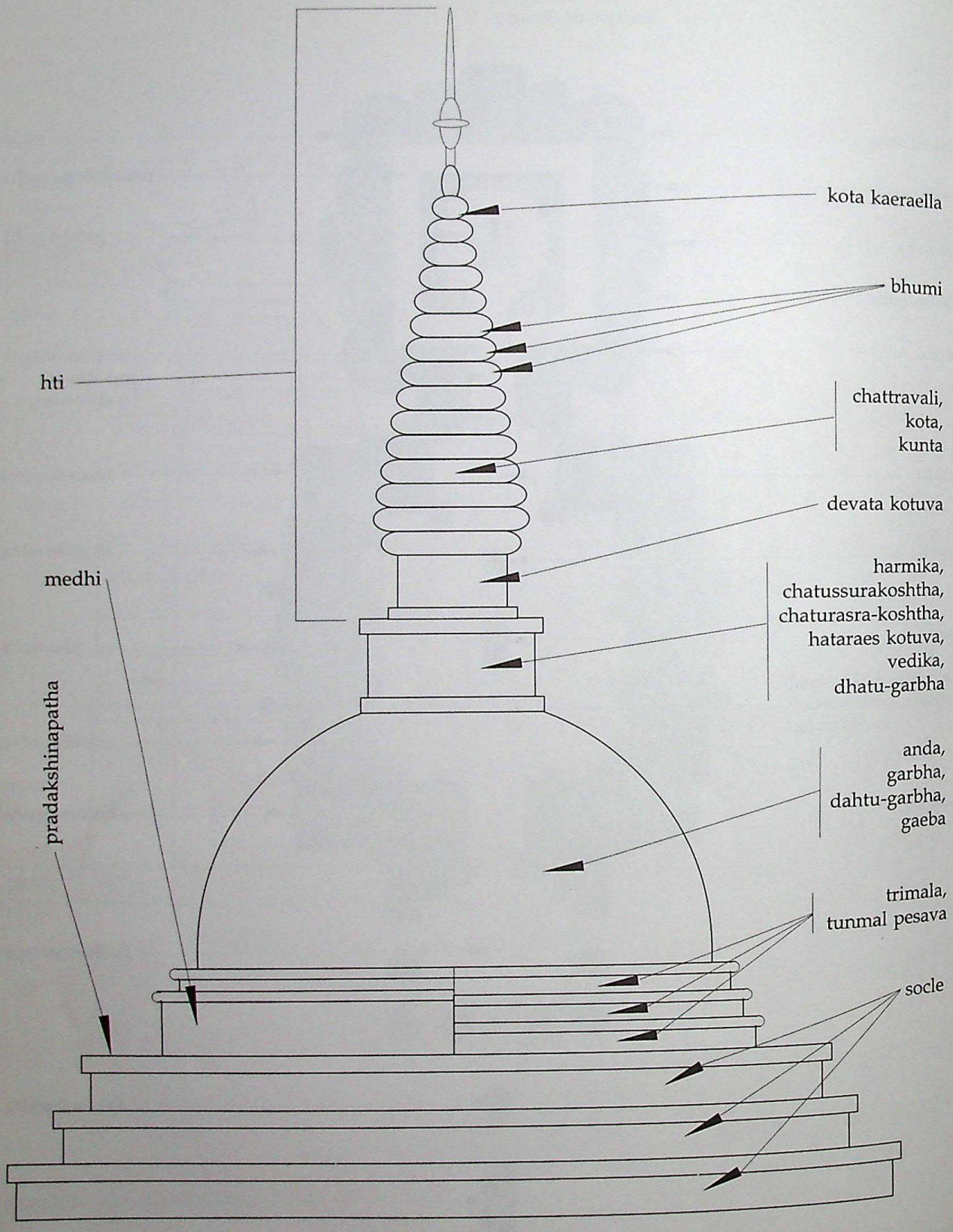
Plate 168 -- Indian Temple Plan, identifying various elements



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

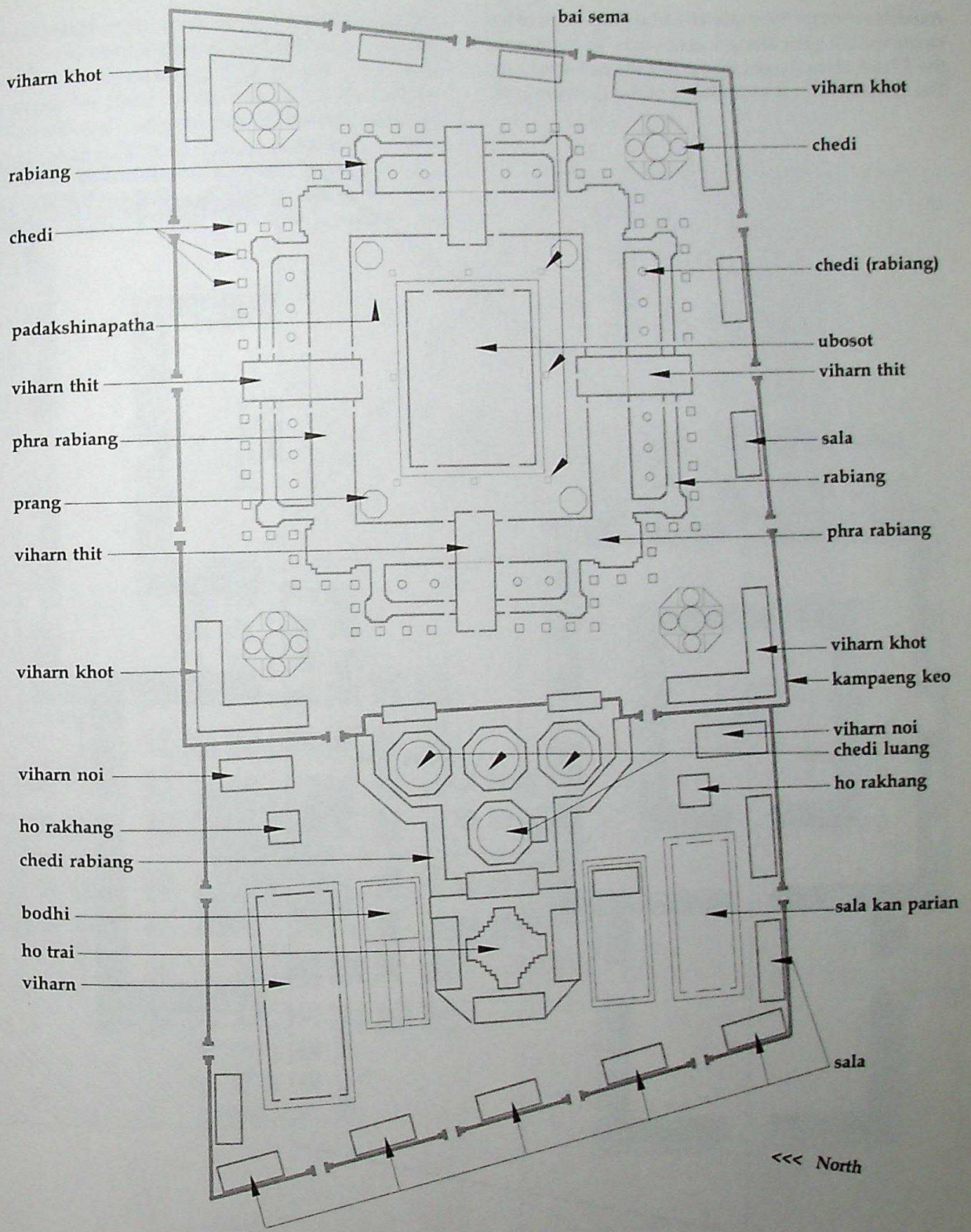
Plate 169 -- Elements of: Stupa, Dhatu-garbha, Dagoba, Dagaba, Pagoda



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 170 -- Thai Wat Plan, identifying various elements
(*Wat Phra Chetuphon*)

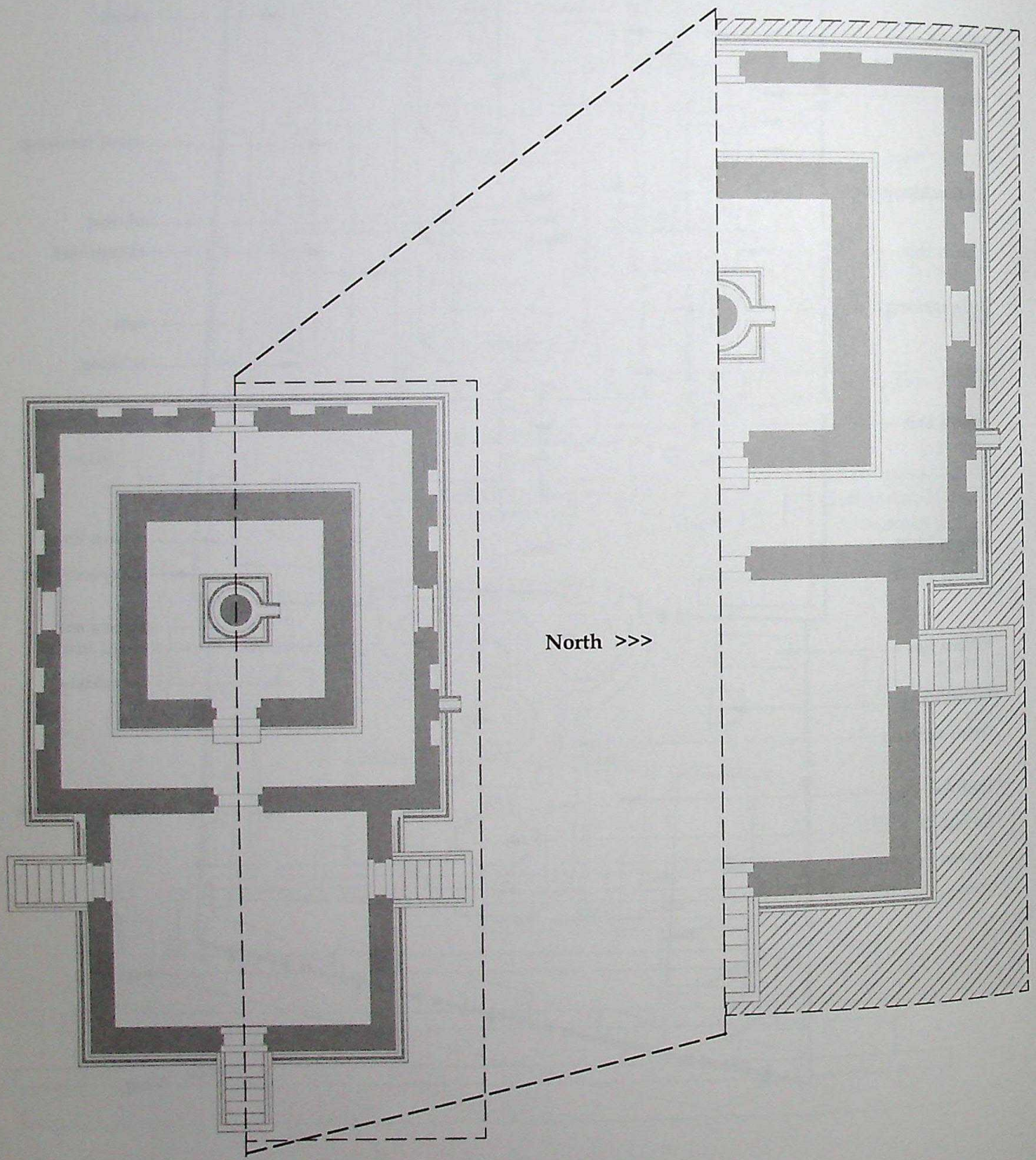


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 171 -- Example of Axiality
(*Kilatali Shiva Temple,* Thiruvanchikula)

Axiality refers to: the symmetrical arrangement of the elements of a plan along a given axis. In the case of the *Kilatali Shiva Temple,* that axis is the east-west axis. The northern half is a duplicate of the southern half.

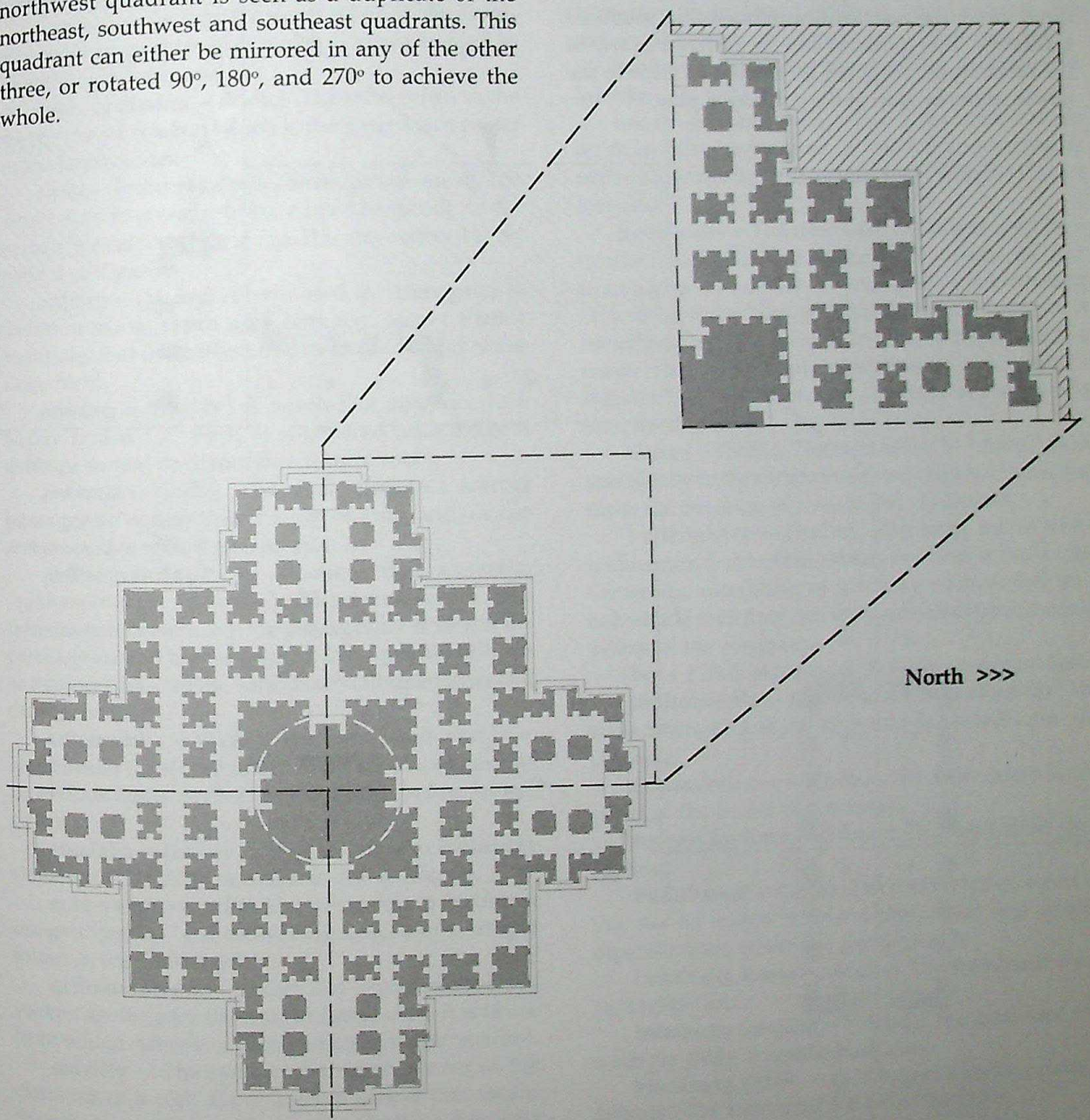


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 172 -- Example of Cross-Axiality
(*Ananda*, Pagan)

Cross-Axiality refers to: the symmetrical arrangement of the elements of a plan along both axes, precisely duplicating each quadrant. This term is not applied to rectangular plans. In the case of the *Ananda*, the north-south and east-west axes divide the form. The northwest quadrant is seen as a duplicate of the northeast, southwest and southeast quadrants. This quadrant can either be mirrored in any of the other three, or rotated 90°, 180°, and 270° to achieve the whole.

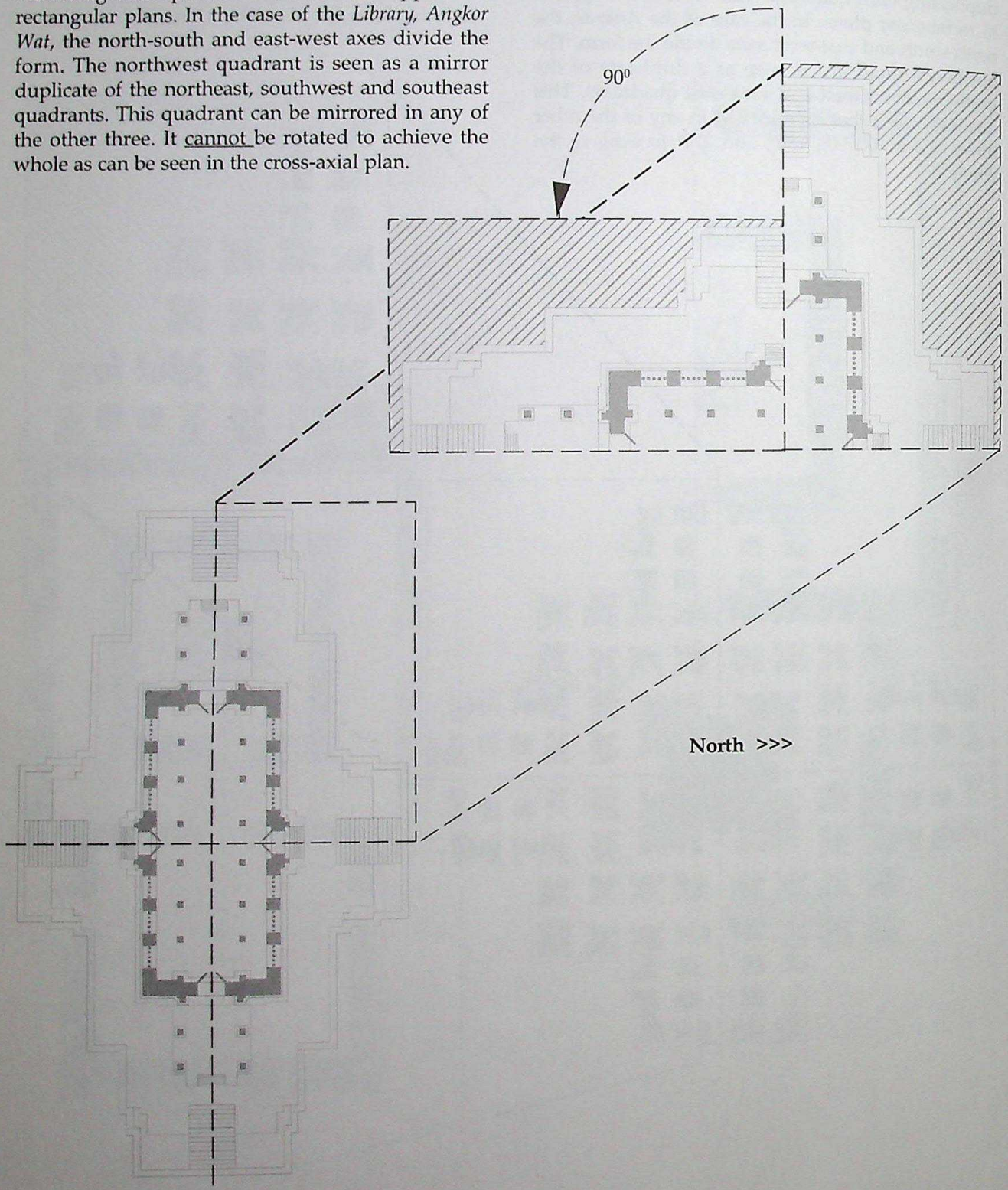


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 173 -- Example of Mirror Cross-Axiality
(*Library, Angkor Wat,* Angkor)

Mirror Cross-Axiality refers to: the symmetrical arrangement of the elements of a plan along both axes, mirroring each quadrant. This term is applied to rectangular plans. In the case of the *Library, Angkor Wat,* the north-south and east-west axes divide the form. The northwest quadrant is seen as a mirror duplicate of the northeast, southwest and southeast quadrants. This quadrant can be mirrored in any of the other three. It cannot be rotated to achieve the whole as can be seen in the cross-axial plan.



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Glossary of Architectural and Related Terms

A

ajna chakra -- (Indic) The term refers to the energy center (*chakra*) which is the command center or the brain center.

amalaka -- (Indic) The term refers to the finials of a *shikhara* or *chattravali* which is characterized as resembling a lotus bud.

anahata chakra -- (Indic) The term refers to the energy center (*chakra*) which is the inner voice center or the heart center.

anda -- (Indic: aka *dhatu-garbha, garbha, gaeba*) The term refers to an egg-shape, more specifically to the hemispherical form of a stupa. It is also referred to as: garbha and gaeba.

anjong -- (Malay) A term used in Terengganu to describe an entrance area (*anjung*), larger than a vestibule, that is attached to the *rumah ibu* and at the same level.

anjung -- (Malay) A porch-like entrance to a Malay house. Generally it is covered with either a gable or saddle back roof or a lean-to roof.

antarala -- (Indic) The term refers to a narrow passageway connecting the *garbha-griha* and/or the *ardhamandapa* with the *mandapa*.

ardhamandapa -- (Indic: aka *antarala, mukhamandapa, sukanasi*) The term refers to a transitional element, a wide passageway between the *garbha-griha* and the *mandapa*. It is frequently utilized as a storage area for the various accouterments needed during worship.

adharashila -- (Indic) The term refers to a base stone under the shrine upon which are placed various propitious items, such as: *nidhikumbha, padma, kurma, yoganala* etc.

amalaka -- (Indic) The term refers to the upper element of the *shikhara* which is donut-shaped.

antaryamin -- (Indic) The term refers to the divine image (literally "the indwelling Lord") of a temple found in the *garbha-griha*.

arthamantapa -- (Indic: aka *ardhamandapa*) A variant spelling for the term *ardhamandapa*. It is also a term which refers to a porch adjacent to the *mandapa*.

axiality -- The symmetrical arrangement of the elements of a plan along a given axis. If that axis is the east-west axis, then the northern half is a duplicate of the southern half.

aya -- (Indic) The term refers to the zodiacal remainder in the calculations of a temple's length.

B

bai sema -- (Thai) The term refers to the boundary markers, eight in all, that proscribe the sacred area of an *ubosot*. They are tablet-like in form and their shape may vary, being found either in small *busabok*-like shrines or embedded in the outer wall of the *ubosot*.

banlang -- (Thai: aka *harmika*) The Thai term for *harmika*.

baray -- (Cambodia) The term refers to an artificial lake constructed in relation to temples, is utilized in irrigation, and is associated with the Khmer Empire.

base/ basis -- The term base or basis is used by a number of scholars--e.g., Anagarika Govinda--to refer to an architectural base or basis, generally consisting of one or more low platforms which serve as a transition from the ground to and/or upon which a major structure, itself consisting of a number of standardized elements--e.g., the basis of a *stupa* or a temple--is placed.

bhumi -- (Indic) The term refers to "strata," more specifically to the decreasing donut-shaped forms that make up the spire of a *stupa*. See: *chattravali*.

bodhighara -- (Indic) The term refers to an architectural structure which encloses a *bodhi* tree. Generally, consisting of a terrace surrounded by a balustrade with four entrances oriented to the cardinal points of the compass.

bot -- (Thai: aka *ubosot*) A variant term for *ubosot*.

brahmashila -- (Indic: aka *napumsakashila*) The term refers to a stone slab that is placed upon the *yoganala*.

brahmásthana -- (Indic) The term refers to the panel in the center of a *mandala*.

bumbung lima -- (Malay) The term used for a hip roof.

buddhawat -- (Thai) The term refers the part of the *wat* in which is found the *ubosot* and *viharn*, separate from where the monks reside.

bumbung limas -- (Malay) The term used for a pyramidal roof.

bumbung panjang -- (Malay) The term used for a simple gable or saddle back roof.

bumbung perak -- (Malay: aka *bumbung potong Belanda*) The term used for a Gambrel roof.

bumbung potong Belanda -- (Malay: aka *bumbung perak*) See: *bumbung perak* .

busabok -- (Thai: aka *pushpaka, ratha*) See: *pushpaka*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

C

chaitya -- (Indic: aka *chetiya, stupa*) Another term for *stupa*. As in a *chaitya* hall, the *stupa* tends to be carved from solid rock as a memorial. See: *dhammachetiya, dhatuchetiya, paribhogachetiya, stupa, uddesikachetiya*.

chaitya hall -- (Indic) The term refers to a sacred temple, generally Buddhist, frequently carved from solid rock. It consists of a colonnaded hall, generally apsidal with a *chaitya* at the center point of the arc.

chakkavati -- (Pali: aka *chakravartin*) A variant term for *chakravartin*. See: *chakravartin*.

chakra -- (Indic) The term refers to the six, or sometimes seven, spheres of energy within the body. See: *ajna chakra, anahata chakra, muladhara chakra, nabhi chakra, sahasra chakra, sahasra dala kamala* (*chakra*), and *vishuddha chakra*.

chakravartin -- (Indic: aka *chakkavati*) The term refers to the concept of a Universal Monarch. One who possesses all the qualities of a great leader as exemplified in the Emperor Ashoka, who was considered to be a *chakravartin*.

chandi -- (Indon.) The term is attached to a temple or temple complex in Indonesia--e.g., *Chandi Sewu*. It may be derived from or refer to: chedi, or Candi (goddess of death).

chatta -- (Pali: aka *chattra, hti*) A variant term for *chattra*. See: *chattra*.

chattra -- (Indic: aka *chatta, gdugs*) The term refers to an umbrella or a parasol. It is applies to a finials ornament in the form of a parasol, usually placed over a *chattravali* or over shrines.

chattravali -- (Indic: aka *hti, kota, kunta, plong chanai*) The term refers to the area of a *stupa* above the *anda* and/or *harmika*, which consists of a series of circular moldings, descending in size as it raises. In some cases the *chattravali* is massive and in other cases it is quite slender.

chaturasra koshtha -- (Indic: aka *chatussurakoshtha, harmika, hataraes kotuva*) A variant term for *harmika*. See: *harmika*.

chatussurakoshtha -- (Indic: aka *chaturasra koshtha, harmika, hataraes kotuva*) A variant term for *harmika*. See: *harmika*.

chedi -- (Thai: aka *chaitya, stupa, zeidi*) The term refers to the Thai equivalent of a *stupa*. Its form is greatly elongated into a tall thin form and may contain holy relics, ashes of monarchs, saints or other meritorious persons. In the later periods it loses its circular shape and becomes more angular. See: *chedi phoem mum, chedi yo mum* .

chedi phoem mum -- (Thai) the term refers to a *chedi* with redented added-angles.

chedi rabiang -- (Thai) the term refers to a *rabiang* which is encloses a *chedi*(*s*). (See: p. 308).

chedi (rabiang) -- (Thai) the term refers to a *chedi* which is contained within a *rabiang* or *phra rabiang* (See: p. 308).

chedi yo mum -- (Thai) The term refers to a *chedi* with rabbeted-angles.

chetiya -- (Pali: aka *chaitya*) See: *chaitya*.

chetiyagara -- (Pali) A roofed circular structure enclosing a smaller stupa prevalent in Sri Lanka.

cho-fa -- (Thai) The term refers to a birdlike finials found on the ends of the roof ridge of a Thai temple or shrine. It is a form of and symbolizes a *garuda*.

cross-axiality -- The symmetrical arrangement of the elements of a plan along both axes, precisely duplicating each quadrant. This term is not applied to rectangular plans. The north-south and east-west axes divide the form. The northwest quadrant is a duplicate of the northeast, southwest and southeast quadrants. This quadrant can either be mirrored in any of the other three, or rotated 90°, 180°, and 270° to achieve the whole.

D

dagaba -- (Javanese: aka *dagoba, dhatu-garbha, pagoda, stupa*) The term refers to a *stupa*, as in the *dagaba* of *Borobudur*. See: *stupa*.

dagoba -- (Indic: aka *dagaba, pagoda*) A variant spelling for the term *dagaba*. See: *dagaba*.

dapur -- (Malay) A kitchen element or separate structure attached to a Malay house, generally at a lower level than the *rumah ibu*.

devata kotuva -- (Sinhalese) The term refers to a cylindrical transition between the *chattravali* and the *harmika*, and means 'the enclosure of the gods.'

devaraj -- (Indic) The term refers to a god-king. It is a concept applied to a number of cultures in Asia. Specifically the Khmer kings were devaraj, as were the emperors of China and Japan, among others.

dhammachetiya -- (Pali) The term refers to one of the four types of *Buddha* monuments (Pali: *Buddhachetiya*), specifically one which is a doctrinal

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

reminder. See: *chaitya*.

dhatu -- (Indic) The term refers to relic(s).

dhatuchetiya -- (Pali) The term refers to one of the four types of *Buddha* monuments (Pali: *Buddhachetiya*), specifically one which contains a relic of the Lord *Buddha*. See: *chaitya*.

dhatu-garbha -- (Indic: *dagaba, dagoba, pagoda*) The term means 'relic womb' and early it referred to the *harmika*, then it became associated with the *anda*. See: *dagaba*

dravida -- (Indic) The term refers to a style of architecture prevalent in the south of India where the Dravidians are located.

G

gaeba -- (Sinhalese: aka *garbha, anda*) A variant term for *anda*. See: *anda*.

gajah menyusu -- (Malay) Literary, "a suckling elephant." An attachment or extension to the end of the *rumah ibu*, gable or saddle back roofed and at a lower level.

gala -- (Indic: aka *griva*) A variant term for *griva*. See: *griva*.

gandal(s)-- (Indic: aka *pilimages*) The term refers to a temple or chapel structure reserved for a large Buddha image.

gandhakuti -- (Burman) The term refers to a small, separate, shrine-like structure, usually found at the cardinal points of a *stupa*. They are referred to as 'perfumed chambers' due to the offerings given within.

garbha -- (Indic: aka *anda, gaeba*) A variant term for *anda*. See: *anda*.

garbha-griha -- (Indic: aka *khapphathat, ruanthat*) The term refers to the sanctuary, specifically of a Hindu temple. It is the place where the image of the main deity is housed and the access to it is limited to the priesthood. It is the *sanctum sanctorum* and the term refers to the womb.

gDugs -- (Tibetan: *chatta, chattra*) A variant term for *chattra*. See: *chattra*.

gedige(s) -- (Indic) The term refers to a rectangular as opposed to a square temple structure , generally in Sri Lanka, usually constructed of brick. Later the term is applied to rectangular , roofed stone structures.

gopura(m) -- (Indic: aka *sum pratu*) The term refers to an elaborate, crowned gateway to a temple compound.

griva -- (Indic: aka *gala*) The term refers to a transitional element of a *shikhara* between the *amalaka* and the *shukanasika*.

gu -- (Burman; aka *ghuha, ku*) The term refers to temples in ancient Myanmar, specifically to those of Pagan. Literally, the term refers to a cave, a holy cave.

guha -- (Pali) The Pali term for *gu*, or cave. See: *gu*.

H

harmika -- (Indic: aka *chatussurakoshtha, chaturasra koshtha, hataraes kotuva*) The term refers to a rectilinear form, traditionally a casket containing treasures, used as a transitional form between the anda and the *chattravali* of a *stupa*. It as an altar-like structure and is also referred to as: *chatussurakoshtha, chaturasra koshtha and hataraes kotuva*.

hataraes kotuva -- (Sinhalese: aka *chatussurakoshtha, chaturasra koshtha, hamika*) A variant term for *harmika*. See: *harmika*.

ho trai -- (Thai) The term refers to a structure within a *wat* which holds the *Tripitaka*, the sacred scriptures, a library.

hpaya-thon-zu -- (Burman) The term refers to "the Three Sacred Lords," represented by the representation of the Lord *Buddha* in three different mudras. Architecturally, it is represented by a tripartite temple, a manifestation of the late Pagan period, and later periods.

hti -- (Burman: aka *chattra, kota, kunta*) The term refers to a parasol form used as a finials. See: *chattra*.

I

istana -- (Malay) The term refers to a "palace" or residence of a royal family or person. Generally, larger and more elaborate than a kampung house with distinct areas for family and ceremonial use.

J

jagamohan -- (Indic: aka *mandapa, mukhashala, navaranga*) The term refers to the assembly hall, or *mandapa*, of a *Nagara* temple.

jangha -- (Indic) The term refers to 'shank' and is the base part of a *shikhara*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

jemoran -- (Malay) A low, open platform (*pelantar*), generally off the *dapur* surrounded by a wooden wall.

K

kaeraella -- (Indic) The term refers to a spherical form used as a finials to a *stupa* spire in certain cultures. It is related to *kalasha*.

kala-kyaung -- (Burman; aka *kyaung, ok-kyaung*) The term refers to an "Indian monastery." See: *wat*.

kalan -- (Champa) The term refers to a sanctuary tower of Champa, generally the central structure in a temple complex. It relates to Mount Meru.

kalasha -- (Indic) The term refers to a vessel or vase, and is applied to a form of similar shape used as a decorative element frequently at the corners of terraces or roofs in Pagan.

kampung -- (Malay) The term refers to "village" or, in present usage: rural. The *kampung* was the heart of Melayu life.

khapphathat -- (Thai: aka *garbha-griha*) The Thai equivalent of *garbha-griha*.

kota -- (Sinhalese: aka *chattravali, hti, kunta*) The term refers to a spire. See: *chattravali*.

kraton -- (Indon.) The term refers to a fortified village usually found on a hill. Later refers to any fortified structure--e.g., a palace.

ku -- (Thai; aka *gu, guha*) The term refers to a small pavilion placed inside a *viharn* for a Buddha image. It relates to a cave. See: *gu*.

kunta -- (Indic: aka *chattravali, hti, kota*) The term refers to a spire. See: *chattravali*.

kyaung -- (Burman: aka *kala-kyaung, ok-kyaung, vihara, wat*) A monastery, a variant term for *kala-kyaung*. See: *kala-kyaung*.

L

lan prathaksin -- (Thai: aka *pradakshinapatha*) The Thai equivalent for *pradakshinapatha*.

lei-myet-hna -- (Burman) The term refers to a temple which has four, equal facades and square *en plan*.

lingam -- (Indic) The term refers to the abstract form, often phallic, which represents the Lord *Shiva*.

M

mandala -- (Indic) The term refers to a sacred, cosmic geometric form or drawing. In the Hindu tradition it is generally square, the center of which is the locus of a deity. The construction of which offers spiritual and cosmic production. It is also conceived as being three dimensional. In the Buddhist tradition the *mandala* tends to be circular.

mandapa -- (Indic: aka *jagamohan, mantapa, mukhashala, navaranga, nrittamandapa*) The term refers to a covered structure attached to a *garbha-griha* of an Hindu temple which serves as an assembly hall. See: *mondhop*.

manduka-mandala -- (Indic) The term refers to a sacred *mandala* composed of eight *pada*, and employed in the plan of a temple.

mantapa -- (Indic) A variant of *mandapa*. See: *mandapa*.

marmas -- (Indic) The term refers to the points of intersection of *pada* which were not to be touched by the walls of the temple.

mChod-rten -- (Tibetan: aka *stupa*) The term refers to the Tibetan equivalent of a *stupa*, a memorial shrine, which may or may not hold relics.

medhi -- (Indic) The term refers to an area either between the *vedika* and the base of a *stupa*, or the area between the base of the *stupa* and the *anda* which is used for *pradakshina*.

mihrab -- (Arabic: aka *mikhrab*) A variant of *mikhrab*. See: *mikhrab*..

mikhrab -- (Arabic: aka *mihrab*) The term refers to the "prayer niche" found in mosques in the wall facing Mecca. The imam preaches or recites the *Qur'an* from this area during the prayers.

mirror cross-axiality -- The symmetrical arrangement of the elements of a plan along both axes, mirroring each quadrant. This term is applied to rectangular plans. The north-south and east-west axes divide the form. The northwest quadrant is a mirror duplicate of the northeast, southwest and southeast quadrants. This quadrant can be mirrored in any of the other three. It cannot be rotated to achieve the whole as can be seen in the cross-axial plan.

mondhop -- (Thai) The term refers to a Thai architectural form (related to the *mandapa*) which is generally square *en plan* and often holds a shrine or particular object of devotion.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

mongkut -- (Thai) The term refers to a structural form usually found terminating a *prasada*. It is circular in form with descending radius discs terminating in a tall thin finial. It is likened to the Thai crown worn by the kings of the Chakri dynasty.

mukhamandapa -- (Indic: aka *ardhamandapa, sukanasi*) Another term referring to the *ardhamandapa*. See: *ardhamandapa*.

mukhamantapa -- (Indic) A variant of *mukhamandapa*. See: *mukhamandapa*.

mukhashala -- (Indic) The term refers to an assembly hall. A variant of the term *jagamohan*. See: *jagamohan*.

muladhara chakra -- (Indic) The term refers to the energy center (*chakra*) which is the root center or the anus.

N

nabhi chakra -- (Indic) The term refers to the energy center (*chakra*) which is the solar plexus center or the navel center.

nagara -- (Indic) The term refers to a style of architecture prevalent in the north of India.

napumsakashila -- (Indic: aka *Brahmashila*) A variant of the term *Brahmashila*. See: *Brahmashila*.

nasika -- (Indic) The term refers to 'nose.' Architecturally, it refers to any ornament that is nose-like in form or profile.

nat(s) -- (Burman) The term refers to a group of deities or spirits which are myriad. They are local animistic deity/spirits of both calm or fierce mien. They may inhabit rocks, trees, rivers, etc., and are regularly worshipped or appeased by the *Theravada Buddhists* of Burma.

navaranga -- (Indic: aka *mandapa*) A variant term for *mandapa*. See: *mandapa*.

nga-myet-hna -- (Burman) The term refers to five faces and applies to a structure, pentagonal in form as well as to the five *Buddhas* of this age, including the *Buddha*-To-Be (*Maitreya*).

nidhikumbha -- (Indic) The term refers to a pot laid atop the *adharashila* in the foundation beneath the *garbha-griha*.

nrittamandapa -- (Indic: aka *mandapa, navaranga*) A variant term for *mandapa*. See: *mandapa*.

nrittamantapa -- (Indic) A variant spelling for *nrittamandapa*. See: *nrittamandapa*.

Nyi-zla -- (Tibetan) The term refers to a symbol found atop Tibetan temples or important shrines which consists of a sun disc over a crescent moon.

O

ok-kyaung -- (Burman: aka *kala-kyaung, kyaung*) A variant term for *kala-kyaung*. See *kala-kyaung*.

P

pada -- (Indic) The term refers to foot, more specifically to the individual squares which make up a *mandala*.

padakkhina -- (Pali: aka *pradakshina*) The Pali equivalent for *pradakshina*.

padmagarbha-mandala -- (Indic) The term refers to a *mandala* popular in the south of India. The *mandala* consisting of 256 *pada*.

pagoda -- (Burman: aka *dagaba, dagoba, dhatu-garbha*) A variant term for *dagaba*. See: *dagaba*.

palami -- (Pali: aka *stupika*) The Pali term utilized by the Lao for the *stupika* at That Luang, Vientiane, Lao.

pancharatha -- (Indic) The term refers to two separate extensions, generally in the middle portion of the surface of a wall, creating five surfaces per face. See: *ratha & triratha*.

paramashayika-mandala -- (Indic) The term refers to a *mandala* with eighty-one *pada*.

paribhogachetiya -- (Pali) The term refers to one of the four types of *Buddha* monuments (Pali: *Buddhachetiya*), specifically one which is a reminder of the Lord *Buddha* by association--e.g., a *bodhi* tree, or the sites of the major events of his life. See: *chaitya*.

parivara -- (Indic) The term refers to figures which are attendant upon a deity-image. Frequently these figures are found in the ambulatories (*pradakshinapathas*) or may encircle the deity proper.

pelantar -- (Malay) A low, open platform, generally off the *dapur*, used for washing and certain food preparations. It is similar to the *jemoran* except that it is not enclosed.

phra -- (Thai) The term refers to an honorific meaning "holy" or "sacred" used in Thailand. It may refer to a person, usually a monk or a thing as in "*phra rabiang*" or "*Phra Pathom Chedi*."

pilimage(s) -- (Indic: aka *gandals*) The term which generally refers to gandals in Sri Lanka. See: *gandals*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

pisang sesikat -- (Malay) Literally, "a bunch of bananas." A small attachment, extension or addition at the end of the *rumah ibu* with a lean-to roof. It is similar *en plan* to the *gajah menyusu*.

plong chanai -- (Thai: aka *chattravali*) The Thai equivalent for *chattravali*.

pradakshina -- (Indic: aka *prathaksin, padakkhina*) The term refers to the act of merit known as circumambulation, or processing around a shrine in a clockwise direction.

pradakshinapatha -- (Indic) The term refers to the hallway within a shrine, or area reserved for circumambulation. It is relatively synonymous with the ambulatory of Romanesque and Gothic churches of the West.

prang -- (Thai) The term refers to the tower form often associated with the Khmers (prasat). It is square in plan, and its evolutional shape, in Thailand, is considerably taller in scale and is likened to an ear of corn.

prasada -- (Indic/Pali: aka *prasad*) A variant spelling of the term *prasad*. See: *prasad*.

prasad -- (Thai: aka *prasada, prasat*) The term refers to a temple plan which in the Thai periods (Ayutthaya and Rattanakosin) it has come to refer to a cruciform religious structure or one reserved for royal ceremonies which is usually terminated in a tall spire (*prang* or *mongkut*)--e.g., *Chakri Maha Prasat* (throne hall).

prasat -- (Khmer: aka *prasad*) The term refers to a temple characterized by a sanctuary tower (Thai: prang). It is also used to denote the dwelling place of a deity or king. A variant spelling of the term *prasad*. See: *prasad*.

prathaksin -- (Thai: aka *pradakshina*) The Thai equivalent for *pradakshina*.

puja -- (Indic) The term refers to an act of worship or prayer in which supplications are made to the deity, often accompanied by some type of offering, or any other act of merit such as *pradakshina*.

pushpaka -- (Indic: aka *busabok, ratha*) The term refers to a cosmic, magical chariot. It is often a term applied to a temple.

R

rabiang khot -- (Thai) The term refers to a roofed gallery surrounding an *ubosot*. Generally it houses numerous dedicatory images of the Lord *Buddha* and is similar to the western cloister.

ratha -- (Indic: aka *pushpaka*) The term refers to a extension of a wall surface, generally on all four sides. If there is a single extension, the form is called *triratha*--creating three surfaces per face. If there are two extensions, the form is called *pancharatha*--creating five surfaces per face. See: *pancharatha* & *triratha*. Also, a variant of the term *pushpaka*. See: *pushpaka*.

rumah ibu -- (Malay) Literally "mother house," the main element or structure of the traditional Malay house.

riksha -- (Indic) The term refers to the zodiacal remainder in the calculations of a temple's length utilizing the planets as the base of calculation.

ruanthat -- (Thai: aka *garbha-griha*) The Thai equivalent of *garbha-griha*.

S

sahasra chakra -- (Indic) The term refers to the energy center (*chakra*) which is the thousand petal lotus center or the enlightenment center.

sahasra dala kamal (chakra) -- (Indic) The term refers to the energy center (**chakra**) which lies beyond the *ajna chakra*, the god center.

sala -- (Thai) The term refers to a roofed structure without walls, a pavilion raised on a plinth and generally found within a *wat*. It shelters one from the sun and rain.

sala can parian -- (Thai) The term refers to a *sala* that is utilized for the teaching of Buddhist doctrine. It is only occasionally found in Thai *wats*.

selasar -- (Malay) A variant term for *serambai*.

serambai -- (Malay) A long low verandah-like attachment to one of the long sides of the *rumah ibu* and at a lower level.

serambai gantung -- (Malay) A variant term for *serambai*.

shikhara -- (Indic) The term refers to a towerlike superstructure over the *garbha-griha* of a temple or any part thereof. It is made up of various sculptural devices and its form can vary.

sima -- (Indic/Pali) The term refers to an ordination hall. See: *ubosot*.

simhasana -- (Indic) The term refers to a lion (*simha*) throne (*asana*).

sotoba -- (Japan: aka *stupa*) A variant term for *stupa*. See: *stupa*.

sthandila-mandala -- (Indic) The term refers to a

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

mandala plan composed of 49 *pada* which is preferred in the south of India.

stupa -- (Indic: *chedi, chaitya, chetiya, dagaba, dagoba, dhatu-garbha, pagoda, sotoba, zeidi*) The term refers to a Buddhist architectural form consisting of a square or circular base upon which rests a hemispherical form (*anda*). The *anda* may vary in shape from a hemisphere to bell-shape, to the form of an inverted pot or may be more angular and attenuated. Upon the *anda* rests a square or cylindrical altar-like form (*harmika*) from which a spire (*chattravali*) rises. Its origin is from a burial tumulus and was frequently employed as a vehicle for various relics.

stupika – (Indic) The term refers to the small *stupa* like forms which are used as subsidiary forms or as finials.

sukanasi -- (Indic: aka *ardhamandapa, mukhamandapa*) A variant term referring to the *ardhamandapa*. See: *ardhamandapa*.

sum pratu -- (Thai: aka *gopura*) The Thai equivalent of *gopura*.

T

tangga – (Malay) A rectangular porch, with a lean-to roof, attached to an *anjong* and generally running the whole length of the *anjong*. It is at a lower level.

that – (Pali: aka *dhatucetiya*) The Pali term utilized in Lao for a monument which is *chaitya* in form.

thien – (Burman: aka *ubosot*) The term refers to ordination hall or *ubosot*. See: *ubosot*.

Tipitaka – (Indic: aka Tripitaka) A variant term for *Tripitaka*. See: *Tripitaka*.

tithi -- (Indic) The term refers to the zodiacal remainder in the calculations of a temple's starting time in relation to the moon.

torana – (Indic) The term refers to an ornamental gate, generally associated with shrines and temples.

trimala -- (Indic: aka *tunmal pesava*) A base, sometimes, as in the case of modern *dagobas*, octagonal in form which elevates the *stupa* form (threefold base, *anda, harmika* and *kunta*) above the ground.

Tripitaka – (Pali) The term refers to the sacred Buddhist canons of the *Therevada* sect. Literally it means "three baskets."

triratha -- (Indic) The term refers to a single extension, generally in the middle portion of the surface of a wall, creating three surfaces per face. See: *ratha* & *pancharatha*.

tunmal pesava – (Pali: aka *trimala*) A variant term for *trimala*. See: *trimala*.

U

ubosot – (Thai) The term refers to one of the two major structures in a Thai *wat*. It is the ordination hall, within which there is no rank, and reserved for specialized rites of the monks. It contains the presiding *Buddha* image. The *ubosot* is encircled by *bai sema* indicating sanctuary. It is often identical in form to the *viharn*.

uddesikachetiya – (Pali) The term refers to one of the four types of Buddha monuments (Pali: *Buddhachetiya*), specifically one which is a indicative reminder--e.g., *stupas*, images, photographs or bas reliefs of either the *dhatuchetiya* or *paribhogachetiya*. See: *chaitya*.

upavasatha – (Indic: aka *ubosot, uposatha*) See: *ubosot*.

uposatha -- (Pali: aka *ubosot, upavasatha*) See: *ubosot*.

V

vara – (Indic) The term refers to the zodiacal remainder in the calculations of a temple's circumference.

vat – (Thai/Khmer) A variant spelling of *wat*. See: *wat*.

vatadage -- (Sinhalese) The term refers to a domelike structure or a roofed structure in which is housed a *dagoba*. It is referred to as a "relic house."

vedika – (Indic) The term refers to a stone fence which traditionally surrounds a *stupa*.

vesara – (Indic: aka *dravida*) A variant term for *dravida*. See: *dravida*.

vihara – (Indic: aka *wat*) The term refers to a monastery and particularly refers to the rectilinear, subtractive monasteries as those found at Ajunta. See: *wat*.

viharn – (Thai) The term refers to a chanting hall, particularly within the Thai tradition. It is generally identical in its exterior to the *ubosot*, with its own *Buddha* image. It is the place where the laity assemble for prayers.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

viharn khot – (Thai) The term refers to an "L" shaped *viharn* usually found at the corners of a *wat's* enclosure.

viharn thit – (Thai) The term refers to a lesser *viharn* usually found at the cardinal points of a *phra rabiang*.

vimana – (Indic) The term refers to the towerlike structure of a temple in the south of India, related to the *shikhara*. It also refers to a vehicle upon which a deity sits and is transported. It also refers to a temple which becomes a *vimana* (vehicle) carrying the faithful.

vishuddha chakra – (Indic) The term refers to the energy center (*chakra*) which is the speech center or the throat center.

vyaya – (Indic) The term refers to the zodiacal remainder in the calculations of a temple's width.

W

wat – (Thai: aka *kyaung*) The term refers to a monastery, usually consisting of an *ubosot, viharn* and a residence area for the monks.

wiharn – (Thai) A variant of *viharn*. See: *viharn*.

Y

yoganala – (Indic) The term refers to a conical tube, constructed of copper is placed just under the *Brahmashila* in the dedicatory foundation of the *garbha-griha*.

Z

zedi – (Burman) A variant of *zeidi*. See: *zeidi*.

zeidi – (Burman) The term refers to a *stupa* (Thai: *chedi*). See: *stupa*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Index

The following index is constructed with the Indic transliterated terms in parentheses. In addition the Tibetan terms are alphabetized according to the Roman alphabet--i.e., the initial pronuncial-indicators (letters) are placed within the corresponding Roman alphabet grouping--e.g., *sPyan-ras-gzigs* is alphabetized under "s" rather than "P" or "Ch" (*Chenrezig*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Index

A

abdhuta (Ind.: *abḍhuta*) 11
abdhuta asana (Ind.: *abḍhutāsana*) 11
abdhuta shayana (Ind.: *abḍhuta-śayana*) 11
abdhuta asthanaka (Ind.: *abḍhuta-sthānaka*) 11
abhaya mudra (Ind.: *abhaya-mudrā*) 138, 248, 292
Abraham 33
Adi-Buddha (Ind.: *Ādi-Buddha*) 56, 138
Aditi (Ind.: *Aditi*) 42, 44
Aditya (Ind.: *Āditya*) 42, 44
Adityas (Ind.: *Ādityas*) 25, 44, 109, 184, 205, 221
Agni (Ind.: *Agni*) 16, 21, 40, 42, 44, 46, 74, 80, 88, 124, 143, 183, 204, 212, 237, 256, 302, 324, 336, 344
agni (Ind.: *agni*) (see also: pancha-tanmatras) 20, 54, 72, 80, 96, 100, 102, 126, 158, 163, 174, 188, 194, 203, 226, 255, 264, 278, 286, 294, 326, 341
Agra 7
ahama-karshini (Ind.: *ahaṁkārṣiṇī*) 23
Ahamdnagar 6
ahmkara (Ind.: *ahṁkārā*) (pride; see: five fail-ings or weaknesses) 21, 166, 183, 211, 276, 324
Aihole 7, 67, 90, 110, 172, 230, 376
Ajanta 32, 34, 67, 82, 84, 376
ajna (Ind.: *ājñā*) (see: Ajna Chakra)
Ajna Chakra (Skt.: *Ājñā Cakra*) (see also: chakra) 20, 21, 29, 50, 112, 302, 320, 324, 326, 328
Ak Yom 186
akasha (Ind.: *ākāśa*) (ether; see also: pancha-bhutas, octave of Prakriti) 19, 21, 22, 42, 112, 166, 277
Akengka 155
Akshobhya (Ind.: *Akṣobhya*) 50, 274, 276
akusala-kamma (Ind.: *akusala-kamma*) 20
alambusha-nadi (Ind.: *alaṁbuṣā-nāḍī*) (see also: chaturdasha nadis) 23
Alampur 188
Alangsithu 238, 252, 258
Alangsithu (King) 18
Altar of Heaven 8
amalaka (Ind.: *āmalaka*) 238
amisa-dana (Ind.: *āmisa-dāna*) 20
Amitabha (Ind.: *Amitābha*) 50, 138, 274, 276
Amoghasiddhi (Ind.: *Amogha-siddhi*) 50, 138, 274, 276
amrita-karshini (Ind.: *amṛtā-karṣiṇī*) 23
anahata (Ind.: *anāhata*) (see: Anahata Chakra)
Anahata Chakra (Ind.: *anāhata cakra*) (see also: chakra) 21, 23, 85, 88, 93, 96, 100, 104, 112, 122, 179, 204, 213, 237, 241, 256, 261, 269, 281, 294, 317, 328
Ananda (Ind.: *Ananda*) 8, 144, 223, 234, 237, 246, 249, 252, 257, 258, 260, 261, 262, 268, 269, 295, 375, 376, 378
Ananta (Ind.: *Ananta*) 226
Anantashayana (Ind.: *Anantaśā-yana*) 226
anardha-ratha (Ind.: *anardha-ratha*) 60, 352
anardha-ratha (Ind.: *anardha-ratha*) 58
Anawratha 223, 224
anda (Ind.: *aṇḍa*) 32, 33, 34, 52, 54, 56, 70, 72, 76, 132, 134, 136, 238, 240, 261, 274, 276, 278, 282, 292, 296, 330, 377
adharashila (Ind.: *ādhāraśilā*) 14
Andhra Pardesh 32
anger (see: krodha)
Angaraka (Ind.: *Aṅgāraka*) (Mars, Kuja; see; Mangala)
Angkor 6, 7, 8, 9, 70, 144, 155, 169, 180, 186, 191, 200, 205, 206, 208, 334, 374, 376, 377
Angkor Thom 169
Angkor Wat 8, 169, 175, 200, 202, 205, 206-213,334, 356, 377, 378
angula (Ind.: *aṅgula*) 11
Anguttara Nikaya (Ind.: *Aṅguttara Nikāya*) 54
anima (Ind.: *aṅimā*) (see also: dasha-siddhis) 22, 228
animals (see: hGro-ba Rigs Drug)
Aniruddha 224, 242, 322
ankh 3
Anna Leonowens 290
Anoratha 224, 234
antarala (Ind.: *antarala*) 62, 114, 192
Antariksha (Ind.: *Antarikṣa*) 42, 44
Anuradhapura 8, 67, 72, 76, 344, 373, 377
ap (Ind.: *ap* aka *apas*) (water; see also: pancha-tanmatras, panchabhutas, octave of Prakriti) 20, 22, 42, 88, 92, 100, 112, 121, 153, 164, 166, 190, 203, 232, 236, 250, 260, 269, 277, 280, 298, 312, 320, 328
Apa (Ind.: *Āpa*) 42, 44
apas (Ind.: *apas* aka *ap*) 21, 166
Apavatsa (Ind.: *Āpavatsa*) 42, 44
apaya-bhumi (Ind.: *āpaya-bhūmi*) 24, 42, 88, 93, 184, 204, 221, 244, 256
apse 78
apsidal 81
Arabic 20, 320, 322
Arch of Constantine 8
ardhamandapa (Ind.: *ardhaman-dapa*) 62, 114, 192
Arhats (Ind.: *Arhats*) 142, 210, 250, 261
ariyadhanna (Ind.: *ariyadhanna*) (seven noble trea-sures) 21, 80, 143, 183, 237, 256, 302, 325, 341
artha (Ind.: *artha*) (purpose; see also: tri-varga, Pradharthas) 20, 80, 102, 158, 162, 166, 174, 226, 260, 328
arupadhatu (Ind.: *arūpadhātu*) (see also: triloka) 20, 54, 132, 162, 218, 226, 249, 286, 316, 332, 334, 344, 352
arupaloka (Ind.: *arūpaloka*) (see also: triloka) 23, 24, 36, 54, 55, 81, 96, 277, 308, 346
Aryaka (Ind.: *Āryaka*) 42, 44
Aryama (Ind.: *Āryama*) 44

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Aryan 16, 34, 70
asana (Ind.: *āsana*) 11
asana mandala (Ind.: *āsana maṇḍala*) (see also: mandala) 27, 152, 240
ascending node of the moon (see: Rahu)
Ashoka (Ind.: *Aśoka*) 26, 67, 72
ashta-Maha-Bodhisattvas (Ind.: *aṣṭa-Mahā-Bōdhisattvas*) (Eight Great Bodhisattvas) 22, 42, 112, 232, 237, 341, 347
ashta-Mahachaitya (Ind.: *aṣṭa-Mahācaitya*) (eight great stupas, mChod-rten-Che brGyad) 22, 42, 48, 56, 108, 112, 154, 194, 204, 210, 220, 232, 237, 242, 308, 321, 336, 341, 347
ashta-matrika (Ind.: *aṣṭa-mātṛkā*) (eight Mothers) 22, 42, 88, 93, 112, 154, 179, 194, 198, 204, 232, 237, 308, 321, 341
ashta-niddhi (Ind.: *aṣṭa-niddhi*) (eight treasures [of Kubera]) 22, 42, 88, 93, 112, 154, 179, 194, 198, 204, 232, 237, 306, 321, 341
ashta-rahasaya-yogini (Ind.: *aṣṭa-rahasaya-yoginī*) (See: ashta-vag-devatas)
ashta-vag-devatas (Ind.: *aṣṭa-vāg-devatās*) (eight secret deities) 22, 42, 88, 93, 112, 154, 179, 194, 198, 204, 232, 237, 308, 321, 341
ashta-Vagdevatas (Ind.: *aṣṭa-Vāgdevatas*) (eight deities of speech) 22, 42, 88, 93, 112, 154, 179, 194, 198, 204, 232, 237, 308, 321, 341
ashtamangala (Ind.: *aṣṭamangala*) (Eight Auspicious Symbols; bKra-shis rTags-brGyad) 22, 42, 56, 88, 108, 112, 154, 194, 204, 210, 220, 232, 237, 242, 308, 321, 336, 342, 347
Ashtdiggajas (Ind.: *Aṣṭdiggajas*) 178
ashtachaturdasa-dala padma (Ind.: *aṣṭacaturdasa-dala padma*) 26, 251
Asura (Ind.: *Asura*) 42, 44
Athens 8, 117
Athitaraja (Ind.: *Athitarāja*) 292
atma-karshini (Ind.: *ātmā-karṣiṇī*) 23
attha maggangani (Ind.: *aṭṭha maggangani*) 54
Ava 330
Avalokiteshvara (Ind.: *Avalokiteśvara*) (See: sPyan-ras-gzigs Phyag-sTong sPyan-sTong) 74, 156, 214, 218, 314, 352, 356
avatara(s) (Ind.: *avatāra*) (see also: Vishnu, Vamana-Trivikrama) 20, 22, 72, 80, 96, 100, 102, 108, 126, 158, 162, 174, 188, 194, 203, 244, 226, 255, 264, 316, 317, 326, 332, 336, 341, 344, 352
avenikasmrityupasthana (Ind.: *āveṇikasmṛtyupasthāna*) (see: dasha-tathagata-balani) 74
Avignon Pieta 214
aya (Ind.: *āya*) 12
Ayodhya (Ind.: *Ayodhyā*) 300
Ayudhaya (see: Ayutthaya)
Ayutthaya (Ayudhaya) 7, 8, 9, 32, 34, 170, 192, 289, 290, 300, 310, 313, 314, 316, 317, 318, 326, 330, 333, 334, 338, 342, 374, 376, 377, 378
Aztecs 376

B

Baba 362
Bai Ma Si 358
bai sima 338
Bakheng 169, 175, 180-185, 186
Bakong 32, 68, 169, 175, 176-179, 180, 186, 206, 208, 216, 221, 374, 376, 377
Baksei Chamkrong 352
Balaji (Ind.: *Bālāji*) 32
Bali 67, 129, 164
Bangkok 226, 289, 326, 338
Banteay Kdei 214
Banteay Samre 7, 192, 169-199, 196, 198, 300
Banteay Srei 196
Baphuon 8, 169, 175, 200-205, 200, 202, 205, 206, 208, 221, 376, 377
baptistry 8
barahmasa (Ind.: *barahmasa*) 23, 88, 93, 96, 100, 104, 121, 179, 237, 241, 256, 260, 269, 294
baray 169
Bardo Mandala 56
basis 76
Batu Caves 31, 32
bavishya-kala (Ind.: *baviṣya-kāla*) (future; see also: kála) 20, 162, 226
Bayon 6, 155, 169, 175, 205, 214-221, 374
bDe-gShegs So-lNga 25, 183
bDud-bTul mChod-rten 56
Beijing 8
"bell" 72
Benin 3
Bernadette 33
Bethlehem 378
bhadra (Ind.: *bhadra*) 96
bhadramahasana mandala (Ind.: *bhadramahāsana maṇḍala*) (see also: mandala) 27
bhadras (Ind.: *bhadras*) 94
Bhagavadgita (Ind.: *Bhagavadgītā*) 24, 123, 342
Bhallata (Ind.: *Bhallāṭa*) 42, 44
Bhringaraja (Ind.: *Bhṛṅgarāja*) 42, 44
Bhrisha (Ind.: *Bhṛśa*) 42, 44
Bhudhara (Ind.: *Bhūdhara*) 42, 44
bhukti (Ind.: *bhukti*) (see: dasha-siddhis) 22, 228
Bhumara (Ind.: *Bhūmara*) 373
bhumi (Ind.: *bhūmi*) 24, 25, 42, 70, 88, 93, 184, 204, 213, 221, 244, 237, 308, 336, 256, 342
bhumisparsha mudra (Ind.: *bhūmisparśa mudrā*) 56, 138, 234, 237, 258
bhuta-kala (Ind.: *bhūta-kāla*) (past; see also: kála) 20, 162, 226
bhuvanas (Ind.: *bhūvanas*) 23, 117, 342
Bhuvaneshvar (Ind.: *Bhūvaneśvar*) 58, 62, 67, 118, 373, 375
Bible (Biblical) 376
bija (Ind.: *bījā*) (see: seed) 19, 32
bija-karshini (Ind.: *bījā-karṣiṇi*) 23
bKra-shis rDzas-brGyad (Eight

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Symbols of Buddha's Life) 22, 42, 108, 112, 154, 194 , 204, 210, 220, 232, 237, 244, 308, 321, 336, 342, 347
bKra-shis rTags-brGyad (eight auspicious symbols; see: ashtamangala)
blood (rakta; see also: sapta-dhatu)
bo (Ind.: *bo*) (see: bodhi)
Bodhanatha 34, 54
Bodh Gaya 272, 378
bodhi (Ind.: *bodhi*) 54, 68, 76, 338
bodhighara (Ind.: *bodhighara*) 68, 69, 76
bodhipakaya (Ind.: *bodhipakaya*) 25, 81
Bodhisattva(s) (Ind.: *Bodhisattva* or *Bōdhisattva*) 22, 50, 54, 56, 74, 84, 85, 108, 140, 156, 218, 228, 244, 249, 274, 277, 299, 308, 313, 317, 336, 344, 352, 356
Bodhisattva of Compassion 352
Bogyoke-Mi Kubyauk 223, 270, 272, 376
Bon 16
Borobudur 3, 6, 8, 10, 32, 34, 39, 50, 55, 68, 76, 129, 132-139, 140, 149, 150, 155, 167, 179, 180, 185, 200, 203, 246, 274, 295, 330, 373, 374, 376, 377
Borom Rachathirat 318
Borom Trialok 326
Boromakot 330
Boromaraja I 310
Boromaraja II 318, 321
Boromaraja III 326
Boromaraja IV 326
Boyinnaung 330
Brahma (Ind.: *Brahma*) 12, 19, 38, 44, 58, 118
Brahmá (Ind.: *Brahmā*) 20, 38, 40, 44, 72, 80, 96, 100, 102, 118, 126, 136, 158, 162, 174, 188, 194, 202, 203, 208, 218, 226, 233, 249, 255, 262, 278, 286, 292, 316, 326, 332, 341, 344, 352
Brahmanic 39, 68, 86, 129,224, 228, 233, 373
Brahmanism 214
Brahmans 226
Brahmasthana (Ind.: *Brahmāsthāna*) 42, 46, 48, 50, 58, 90, 94, 112, 138, 172, 178, 182, 192, 208, 230, 234, 238, 240, 248, 260, 262, 268, 272, 276, 278, 292, 296, 302, 306, 312, 316, 320, 352, 354, 364, 366, 370
brahmashila (Ind.: *brahmaśila*) 14
Brahmeshvara Temple (Ind.: *Brahmeśvara*) 6, 58, 62, 67, 114-117, 352, 373, 375
Brahmin(s) 14, 19, 44, 58, 70, 155
Brazen Palace 344
Brihadeshvara Temple (Ind.: *Bṛhadeśvara*) 7, 62, 104
Brihaspati (Ind.: *Bṛhaspati*) (Jupiter, Guru) 19, 20, 23, 24, 25, 26, 27, 28, 30, 72, 80, 81, 85, 88, 93, 96, 100, 102, 104, 108, 109, 117, 122, 126, 158, 163, 174, 179, 182, 184, 188, 194, 203, 205, 211, 221, 226, 237, 241, 245, 249, 251, 255, 256, 260, 264, 269, 278, 286, 294, 309, 313, 316, 326, 328, 332, 334, 341, 344, 352
British 289
British Burma 289
Bronze Palace 344
bSrung-ma lNga (five protectresses; see: pancha-raksha)
Buddh-Gaya (Ind.: *Buddh-Gayā*) 322
Buddha(s) (Ind.: *Buddha*) 20, 21, 22, 23, 25, 26, 48, 50, 54, 56, 68, 70, 72, 74, 75, 76, 80, 82, 84, 85, 106, 108, 109, 134, 136, 140, 143, 148, 149, 156, 158, 162, 174, 183, 184, 194, 204, 214, 218, 226, 230, 234, 237, 242, 244, 246, 249, 255, 258, 260, 264, 265, 266, 268, 272, 277, 278, 284, 286, 292, 294, 296, 298, 299, 300, 302, 309, 314, 316, 317, 322, 325, 326, 332, 334, 336, 341, 344, 346, 352, 354, 377
Buddha-Dharma (Ind.: *Buddha-Dharma*) 70
Buddha Kakusandha (Ind.: *Buddha Kakusandha*) (See: Kakusandha)
Buddha Kassapa (Ind.: *Buddha Kassapa*) (See: Kashyapa)
Buddha Konagamanda (Ind.: *Buddha Konagamanda*) (See: Kanakamuni)
Buddha Mettaya (Ind.: *Buddha Mettaya*) (See: Maitreya)
Buddha Shakyamuni (Ind.: *Buddha Śākyamuni*) (See: Shakyamuni)
buddhaguna (Ind.: *buddhaguṇa*) ([nine] virtues of the Buddha, nava-Buddha-guna) 22, 149, 154, 159, 184, 194, 221, 228, 265, 312, 346
Buddhanatha 34
buddhawat 338
Buddhism or Buddhist(s) 3, 4, 6, 7, 8, 9, 10, 12, 14, 15, 16, 17, 18, 19, 25, 30, 31, 32, 33, 35, 39, 42, 50, 52, 54, 55, 56, 67, 68, 69, 70, 72, 76, 78, 81, 86, 90, 93, 98, 106, 109, 110, 129, 130, 138, 140, 143, 144, 148, 150, 155, 156, 159, 160, 162, 167, 170, 183, 185, 192, 195, 214, 216, 221, 224, 226, 228, 230, 238, 245, 276, 306, 332, 334, 337, 351, 365, 373, 374, 375, 376, 377, 378, 379, 284, 289, 378
Buddhist Cave-Monastery #1 376
Buddhist Cave-Monastery #2 67, 82-85
buddhya-karshini (Ind.: *buddhyā-karṣiṇī*) 23
Budha (Ind.: *Budha*) (Mercury) 19, 21, 23, 25, 26, 27, 28, 30, 36, 75, 81, 85, 106, 108, 117, 126, 142, 167, 179, 183, 190, 203, 211, 212, 220, 237, 241, 242, 245, 250, 251, 264, 277, 294, 298, 303, 324, 328, 341, 342, 346
bumbung lima 362, 366, 370
Burma(n) 102, 129, 223, 224, 230, 238, 241, 245, 252, 290, 330
busabok 344
Byzantine 276

C

chakkavatti (Ind.: *cakkavattī*) 224
chakkavatti-vatta (Ind.: *cakkavattī-vatta*) (twelve duties of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Index (Continued)

Chakravartin) 23, 85, 104, 121, 179, 204, 213, 237, 241, 256, 260, 269, 281, 294, 317
Cambodia 10, 129, 169
Caste (see: Brahmin, Kshatriya, Vaishya, Shudra) 13
caste 15
Cathedral of Burgos 375
Cathedral of Pisa 8
Caurasi 352
Cave # 19 34
Cave of Bethlehem 33
Cave-Monastery #2 82, 84
Celestial Buddhas 50, 274
chaitya (Ind.: *caitya*) (mChod-rten; see also: stupa) 33, 56, 78, 90, 93, 292, 378
chaitya hall(s) 7, 67, 78-81, 376, 377
Chaiya 6, 374
chakra(s) (Ind.: *cakra*) (subtle energy spheres, see also: Muladhara, Svadhish-thana, Mani-pura, Anahata, Vishuddha & Ajna) 20, 21, 22, 23, 50, 74, 85, 88, 92, 93, 96, 100, 101, 104, 106, 108, 112, 121, 122, 142, 149, 166, 174, 175, 179, 203, 204, 210, 213, 220, 228, 232, 237, 240, 241, 244, 250, 256, 261, 265, 269, 320, 328
chakrasudarshana (Ind.: *chakra-sudarśana*) (disc of Vishnu) 20, 88, 92, 100, 121, 153, 166, 190, 203, 232, 236, 249, 260, 268, 280, 298, 320, 328
chakravartin (Ind.: *cakravartin*) (Universal Ruler) 23, 70, 85, 104, 121, 179, 204, 213, 224, 256, 260, 269, 280, 294, 317
Chakri 338, 347
Chalieng 296
Champa 351, 352, 354, 358, 361
Chams 361
chandi(s) (Ind.: *candi*) 140, 142, 144, 146, 150, 153, 155, 156, 160, 163
Chandi Angsa (Ind.: *Candi Angsa*) 150
Chandi Apit (Ind.: *Candi Apit*) 150, 156, 164, 166, 251
Chandi Brahma (Ind.: *Candi Brahmā*) 150, 152, 155
Chandi Djago (Ind.: *Candi Djago*) 7, 129, 160-163, 164, 375
Chandi Garuda (Ind.: *Candi Garuḍa*) 150
Chandi Kalasan (Ind.: *Candi Kalasan*) 146, 150, 156, 374
Chandi Kidal (Ind.: *Candi Kidal*) 160
Chandi Lumbung (Ind.: *Candi Lumbung*) 129, 140-143, 144, 150, 156, 377
Chandi Nandi (Ind.: *Candi Nandi*) 150
Chandi Panataran (Ind.: *Candi Panataran*) 7, 129, 164-167, 376, 377
Chandi Perwara(s) (Ind.: *Candi Perwara*) 140, 142, 144, 148, 149, 150, 152, 153, 155, 156, 251
Chandi Plaosan Lor (Ind.: *Candi Plaosan Lor*) 7, 150, 156, 159
Chandi Sari (Ind.: *Candi Sari*) 7, 129, 150, 156-159, 374, 377
Chandi Sevu (Ind.: *Candi Sevu*) (See: Chandi Sewu)
Chandi Sewu (Ind.: *Candi Sewu*) 6, 32, 129, 140, 143, 144-149, 150, 156, 251, 376
Chandi Siwa (Ind.: *Candi Siwa*) 150, 152, 155
Chandi Wisnu (Ind.: *Candi Wisnu*) 150, 152, 155
Chandra (Ind.: *Caṇḍra*) (Moon, Soma) 20, 23, 24, 25, 26, 27, 28, 29, 30, 36, 42, 44, 70, 74, 75, 80, 85, 88, 92, 93, 96, 100, 102, 104, 106, 108, 117, 121, 122, 124, 142, 143, 153, 159, 166, 179, 183, 184, 190, 204, 211, 221, 237, 241, 244, 245, 250, 251, 256, 257, 260, 261, 265, 269, 294, 299, 302, 308, 313, 320, 321, 322, 326, 328, 342, 346
Chandrehe 374
Chaophraya (River) 289, 300
Chartres 114, 379
chattari sammappadhanani (Ind.: *cattāri sammappadhānāni*) 52
chattari satipatthani (Ind.: *cattāri satipaṭṭhāni*) 52
chattaro iddhipada (Ind.: *chattaro iddhipāda*) 52
chattra (Ind.: *cattra*) 34, 56, 70, 72, 76
chattravali (Ind.: *chattravali*) 33, 34, 46, 54, 56, 76, 238, 254, 261, 278, 292, 330, 377
chatur-appamannaya (Ind.: *catur-appamaññāya*) (four Fundamental or Sublime Meditations) 20, 86, 92, 100, 102, 106, 121, 153, 166, 190, 203, 210, 218, 232, 236, 240, 249, 260, 268, 280, 298, 312, 316, 320, 328, 332
chatur-iddhipada (Ind.: *catur-iddhipādā*) (four Psychic Powers) 20, 86, 92, 100, 102, 104, 106, 121, 153, 166, 190, 203, 210, 218, 232, 236, 240, 249, 260, 268, 298, 312, 316, 320, 328, 332
chatur-jhana (Ind.: *catur-jhāna*) (four trances) 20, 86, 92, 100, 102, 106, 121, 153, 166, 190, 203, 210, 218, 232, 236, 240, 249, 260, 268, 280, 312, 316, 320, 328, 332
chaturdasha kona (Ind.: *caturdaśa koṇa*) 23, 303, 342
chaturdasha nadis (Ind.: *caturdaśa nadis*) (see also: alambusha-nadi, kuhu-nadi, vishvodara-nadi, varana-nadi, hasti-jihva-nadi, yasho-vati-nadi, payasvini-nadi, gandhari-nadi, pusha-nadi, shankhini-nadi, sarasvati-nadi, ida-nadi, pingala-nadi, sushumna-nadi) 23, 117, 303, 342
chaturdasha-bhuvanas (Ind.: *caturdaśa-bhūvanas*) (four-teen beings) 23, 117
chaturdasha-dala trikona (Ind.: *caturdaśa-dala trikoṇa*) (fourteen triangles) 23, 117, 303, 342
chaturdiggajas (Ind.: *caturdiggajas*) 178
(chatur)-Pradharthas (Ind.: [*catur*]-*Pradharthas*) (see: Pradharthas)
chedi(s) (Ind.: *cedi*) 33, 52, 55, 290, 292, 295, 296, 299, 300, 304, 306, 308, 310, 312, 313, 314, 316, 318, 320, 322, 324, 326, 328, 330, 334,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

338, 341, 344, 376, 378
Chedi Chet Yod 105, 272, 290, 322, 375
chedi luang 338
Chedi Phra Pathom 34
chedi rabiang 338
Chedi Si Liem 376, 377
Chedi Si Suriyothai 376
Chedi Wat Chamatewi 292
Chedi Wat Chang Lom 50, 289, 296, 374, 378
Chedi Wat Kukut 289, 292, 295, 374, 376, 377
Chedi Wat Mahathat 289, 296
Chedi Wat Phaya Wat 292
Chedi Wat Phu Khao Thong (Chedi Wat Phukhao Thong) 7, 32, 34, 289, 330
Chedi Wat Si Liem 292
Chen-la 170
chetasika (Ind.: *chetasika*) 26, 75
chetiya (Ind.: *cetiya*) 33
Chiang Mai 33, 105, 112, 289, 290, 322, 375, 376, 377
China (chinese) 9, 35, 67, 155, 170, 223, 224, 289, 290, 351, 358, 362, 364, 373, 376
Chindwin 223
chitta-karshini (Ind.: *citta-karṣiṇī*) 23
chorten 52, 56
chöten 33
Christ Jesus 32, 33
Christian or Christianity 3, 6, 8, 15, 16, 17, 18, 31, 32, 33, 35, 124, 206, 376, 378
Christian cathedral 6
Chulalongkorn the Beloved Great 290
circle 6, 7
City Pillar 309
Circular Manduka Mandala (see also: mandala, Manduka Mandala) 35
Commandments 32
Community of Monks (see also: sangha) 54, 316, 326
Constantine 67
coral (see: navaratna)
Court of France 290
Crusades 15

D

dagaba(s) (Ind.: *dāgaba*) (stupa, chaitya, dagoba) 8, 33, 34, 52, 55, 75, 76, 132, 134, 136, 138, 376
dagoba(s) (Ind.: *dāgoba*) (see: dagaba)
dahaka (Ind.: *dāhaka*) (see also: dasha-vahini-kala) 22, 228
Dai 290
Dalai Lama 17
damned, the (see: hGro-ba Rigs Drug)
dana (Ind.: *dāna*) 20, 302, 320, 322
Daniel 33
darshana (Ind.: *darśana*) (six insights) 21, 112, 174, 250, 269, 320, 328
dasha-Mahavidyas (Ind.: *daśa-Mahāvidyās*) (ten great Vidyas) 22, 74, 228, 299, 308, 313
dasha-nanam (Ind.: *daśa-ñaṇaṃ*) (tenfold know-ledge) 22, 74, 108, 228, 244, 299, 277, 308, 312, 317
dasha-shaktis (Ind.: *daśa-śaktis*) (ten female principles; see: dasha-yonis)
dasha-siddhis (Ind.: *daśa-siddhis*) (ten accom-plishments; see also: anima, laghima, mahima, ishitva, vashitva, prakamya, bhukti, iccha, garima, sarva-kamasiddhi) 22, 74, 228, 299, 308
dasha-tathagata balani (Ind.: *daśa-tathāgata balāni*) 23, 54, 74, 122
dasha-vahini-kala (Ind.: *daśa-vahini-kalā*) (ten powers of the vital fire; see also: rechaka, pachaka, shasha-na, dahaka, plavaka, ksharaka, kshobhaka, irimbhaka, mohaka) 22, 74, 228, 298, 308
dasha-yonis (Ind.: *daśa-yonīs*) (ten female principles, dasha-shaktis) 22, 74, 228, 299, 308
dashabala (Ind.: *daśabala*) (See: dashabhala)
dashabhala (Ind.: *daśabhala*) (Ten Powers of Buddha, Tib.: sTobs-bCu) 22, 74, 85, 108, 228, 244, 299, 274, 277, 308, 312, 317
dashavatara(s) (Ind.: *daśavatāra*) (ten avatars of the Lord Vishnu) 22, 42, 74, 108, 226, 228, 244, 277, 298, 308, 312, 317
Dauvarika (Ind.: *Dāuvarika*) 42, 44
De-bZhin-gShegs-pa (five mystics; see: pancha-Tathagata)
Delhi 6, 67, 375, 377
descending node of the moon (see: Ketu)
deshiya mandala (Ind.: *deśīya maṇḍala*) (see also: mandala) 27, 116, 248
Devanampiya Tissa 72, 344
devaraj(a) (Ind.: *devarāja*) (god-king) 10, 68, 169, 170, 175, 176, 185, 186, 198, 202, 205, 206, 214, 317, 334
devas (Ind.: *devas*) 221
devata (Ind.: *devatā*) 54
devata kotuva (Ind.: *devatā kotuva*) 52, 54, 76
Devi (Ind.: *Devī*) 92, 93
dhairya-karshini (Ind.: *dhairyā-karṣiṇī*) 23
dhamma (Ind.: *dhamma*) (see: dharma)
dhamma-dana (Ind.: *dhamma-dāna*) 20
Dhamma-Yan-Gyi 223, 237, 252, 258, 260, 261, 262, 268
Dhamma-Yazika 223, 274, 276, 282, 284, 376, 377
dhammaraja (Ind.: *dhammarāja*) (King of Dharma, dharmaraja)
dharma (Ind.: *dharma*) (law, dhamma, see also: trivarga, three refuges, Pra-dharthas) 20, 25, 54, 80, 81, 84, 85, 102, 136, 156, 158, 162, 163, 166, 174, 218, 226, 249, 255, 260, 264, 278, 286, 294, 316, 326, 328, 332, 334, 341, 344, 352

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

dharmachakra mudra (Ind.: *dharmacakra mudrā*) 138, 248
Dharmadhatu mandala (Ind.: *Dharmadhātu maṇḍala*) (see also: mandala) 39, 50, 138
dharmaraja (Ind.: *dharmarāja*) (King of Dharma, dhammaraja) 214, 224
dhatu (Ind.: *dhātu*) 24, 33, 123, 342
dhatu-garbha (Ind.: *dhātu-garbha*) 52, 54
dhutanga (Ind.: *dhutaṅga*) (thirteen means of removing defilements) 23, 74, 122
dhyana mudra (Ind.: *dhyāna mudrā*) 138
Dhyani (Ind.: *Dhyānī*) 50, 56
Dhyani Buddhas (Ind.: *Dhyānī Buddhas*) 140, 274
diamond (see: navaratna)
Diamond World Mandala (see also: mandala) 39, 50, 138
dikapala(s) (Ind.: *dikapāla*) 40, 96, 306
dikpalaka (Ind.: *dikpālaka*) (see: dikapala)
disc of Vishnu (see: chakrasudarshana, shatkona-chakra)
Diti (Ind.: *Dīti*) 42
Doi Suthep 33
Dong-Düöng Monastery 7, 351, 356, 376
doubled rabiang 340
dravida (Ind.: *drāviḍa*) 62
Dravidian 110
duhkha (Ind.: *duhkha*) see also: eight funda-mental urges) 22, 42, 112, 154
Durga (Ind.: *Durga*) 93
Durga Temple 67, 78, 90-93, 110, 374, 376
Durga Yantra (Ind.: *Durga Yantra*) 25
Dus-bZhi Lha-mo (four seasons) 20, 88, 106, 121, 148, 153, 166, 190, 203, 210, 232, 236, 240, 250, 260, 269, 280, 298, 312, 316, 320, 328, 332
Dutch 290, 362
Duttha-Gamani 344
Dvaravati 292
dvatrimshat-dala padma (Ind.: *dvatriṁśat-dala padma*) 25

E

earth (see: prithivi)
Egypt (Egyptian) 3, 8, 169, 376
eight auspicious symbols (bKra-shis rTags-brGyad; see: ashtamangala)
eight deities of speech (see: ashta-Vagdevatas)
eight fundamental urges (see also: sita, ushna, sukha, duhkha, iccha, sattva, rajas, tamas) 22, 42, 88, 93, 112, 154, 179, 194, 204, 232, 237, 321, 341
eight great mahachaityas (see:: ashta-mahachaityas)
eight great Sstupas (mChod-rten-Che brGyad; see: Ashta-Maha-chaitya)
eight great Bodhisattvas (see: ashta-Maha-Bodhisattvas)
eight mothers (see: ashta-matrika)
eight secret deities (see: ashta-vag-devatas)
eight symbols of Buddha's Life (see: bKra-shis rDzas-brGyad)
eight treasures of Kubera (see: ashta-niddhi)
Eightfold Path 56
eleven heads (see: sPyan-ras-gzigs Phyag-sTong sPyan-sTong)
eleven Rudras (see: Rudra[s])
Elura 32
emerald (see: navaratna)
Emerald Buddha 338
Emperor Yu 35
England (English) 15, 290, 361
Enlightened 25, 27, 75, 108, 211
Enlightened One 336
Enlightenment 17, 21, 25, 52, 54, 55, 74, 80, 142, 143, 183, 204, 237, 256, 299, 302, 309, 317, 325, 336, 341
ether (see: akasha or vymon)
Europe (European) 31, 32, 129, 351, 361, 375

F

Fathepur Sikri 6
feng shui 373
Feria Bagh 6
fifteen letters of the Shri Vidya mantra (see: pancha-dashi, Shri Vidya mantra)
fifteen Nityas (see: pancha-dasha-Nityas)
fifteen Tithis (see: pancha-dasha-Tithis)
fifty-two mental commitments 26, 75
fish (see: matsya)
five Buddhas (see: pancha-Buddhas)
five elements (see: pancha-tanmatras)
five evolutes of Maya (see: pancha-kanchukas)
five failings or weaknesses (see also: ahmkara, moha, lobha, kama, krodha) 21, 166, 183, 190, 203, 211, 276, 324
five forces (see: pancha-balani)
five "M's" (see: panchama-kara)
five mystics (De-bZhin-gShegs-pa; see: pancha-tathagata)
five protectresses (bSrung-ma lNga; see: pancha-raksha)
five skandhas (see: skandhas)
five sense particulars (pancha-bhutas, mahabhutas)
five sense-stimulating objects (see: hDon-yon sNa-lNga)
five Senses (see: kamaguna)
five Sisters of Long Life (see: Tshe-ring mChed-lNga)
five Subtle Elements (see: tanmatras or pancha-tanmatras)
five truths (see: pancha-tattva)
five-headed Hanuman (see: Panchamukha Hanuman)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

fivefold Transcendental Wisdom (see: Ye-shes lNga)
flavor (see: rasa)
flywheel 375
form (see: rupa)
Forty Mental Exercises 74
four basic elements (see: hByung-ba bZhi)
four bodies (see: sKu-bZhi)
four fundamental or sublime meditations (see: chatur-appamannaya)
four guardians of the quarters (see: Lokapala, Phyogs-sKyong)
four psychic powers (see: chatur-iddhipada)
four sacred rivers 20
four seasons (see: Dus-bZhi Lha-mo)
four trances (see: chatur-jhana)
fourteen beings (chaturdasha-bhuvanas)
fourteen psychic functions (see: vinnana-kicca)
fourteen triangles (see: chatur-dasha-dala trikona)
France (French) 15, 169, 289, 290
French Indochina 289
French Romanesque 114
future (see: bavishya-kala)

G

gaeba (Ind.: *gaeba*) 52
gala (Ind.: *gala*) 40
gandal (Ind.: *gandal*) 68, 110
gandha (Ind.: *gandhā*) (smell; see: tanmatras, pancha-tanmatras) 21, 211, 276
gandha-karshini (Ind.: *gandhā-karṣiṇī*) 23
gandhakuti (Ind.: *gandhākuti*) 238, 240, 274, 276
gandhari-nadi (Ind.: *gāndhārī-nāḍī*) (see also: chatur-dasha nadis) 23
Gandharva (Ind.: *Gāndharva*) 42, 44
Ganesha (Ind.: *Gaṇeśa*) 11, 16, 96
ganita mandala (Ind.: *gaṇita maṇḍala*) (see also: mandala) 28
garbha (Ind.: *garbha*) 52, 156
garbha-griha (Ind.: *garbha-gṛha*) 6, 14, 31, 32, 33, 35, 58, 60, 62, 82, 86, 90, 94, 98, 100, 101, 102, 110, 112, 114, 116, 120, 144, 152, 172, 176, 180, 185, 188, 192, 196, 206, 217, 226, 242, 254, 268, 270, 274, 276, 286, 312, 316, 320, 352, 354, 373, 375, 376, 377
Garden Pavilion 6, 67, 124-126, 377
garima (Ind.: *garimā*) (see: dasha-siddhis) 22, 228
Gawdaw-Palin 7, 223, 251, 262, 265, 376
gDugs 56
gediges 68
geomancy 373
German 15
Gethsemane 32
Gizah 129
gNas-brTan bCu-drug 23, 108, 122, 142, 210, 250, 261, 313, 321, 342
god-king (see: devaraj)
gods (see: hGro-ba Rigs Drug)
Golden Mount 330
gopis (Ind.: *gopīs*) 27, 184
gopura (Ind.: *gopura*) 32, 196, 198, 200
Gotama (Ind.: *Gotama*) 50, 274
Gothic 9, 15, 114, 351, 375
Grand Palace 338
greed (see: lobha)
Greek 196, 200, 214, 216, 234, 258, 262
Greek cross 188, 192, 310
Grotto of Lourdes 33
gShegs-pa 341
gu 102, 110, 144, 156, 192, 229, 230, 234, 238, 242, 252, 254, 257, 260, 266, 270, 272, 284, 322, 365, 376
Gulf of Siam 289
guna (Ind.: *guṇa*) (forces, [tri]guna; see also: sattvaguna, rajoguna, tamo-guna) 20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 264, 278, 286, 292, 326, 341
Guru (Ind.: *Guru*) 19, 20, 23, 24, 25, 26, 27, 28, 30, 72, 80, 81, 85, 88, 93, 96, 100, 102, 104, 108, 109, 117, 122, 126, 158, 163, 174, 179, 182, 184, 188, 194, 203, 205, 211, 221, 226, 237, 241, 245, 249, 251, 255, 256, 261, 264, 269, 278, 286, 294, 309, 313, 316, 326, 328, 332, 334, 341, 344, 352
Gyantse Kumbum 27, 35, 50, 56, 336, 342

H

Hakka 361
hamika (Ind.: *hamika*) (See: harmika) 34
Hamsa (Ind.: *Haṁsa*) 150
Han 155
Hanuman (Ind.: *Hanūmān*) 21, 126, 250, 264, 277, 324
Harappa 223
Harati Temple (Ind.: *Haratī*) 16
Hariharalaya 172, 176, 180
Haripunchai 292
Haripunjaya 292
harmika (Ind.: *harmika*) 33, 34, 52, 54, 56, 70, 72, 76, 134, 136, 238, 278, 292, 296, 330
hasta (Ind.: *hasta*) 11
hasti-jihva-nadi (Ind.: *hasti-jihvā-nāḍī*) (see also: chatur-dasha nadis) 23
hataraes kotuva (Ind.: *hataraes kotuva*) 54
hByung-ba bZhi (four basic elements) 20, 56, 106, 121, 148, 153, 166, 190, 203, 210, 218, 232, 236, 240, 250, 260, 269, 280, 298, 312, 316, 320, 328, 332
hDon-yon sNa-lNga (five sense stimulating objects) 21, 56, 85, 106, 142, 166, 183, 190, 203, 211, 220, 241, 242, 250, 264, 277, 294, 298, 324, 341
Heaven 16
hGro-ba Rigs Drug (six beings) 21, 112, 149, 174, 250, 269, 320, 328
Hindu(s) or Hinduism 4, 6, 7, 8, 9,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

10, 12, 14, 15, 16, 17, 18, 19, 30, 31, 32, 33, 35, 36, 38, 39, 40, 42, 46, 67, 68, 74, 75, 78, 80, 81, 86, 90, 93, 98, 100, 101, 102, 110, 114, 123, 124, 129, 130, 132, 138, 140, 142, 144, 150, 152, 153, 155, 158, 159, 160, 162, 164, 170, 174, 178, 183, 192, 203, 204, 206, 212, 216, 228, 229, 233, 236, 255, 256, 286, 302, 324, 336, 341, 354, 361, 362, 365, 373, 374, 375, 376, 377, 378
hKhol-lo (subtle energy spheres, see also: chakras)
ho rakheng 338
ho trai 338
Hoi-an 351, 376
Hokien 361
House of Raja Birbal 6
Hoysala 118
Hpaya 33
hpaya-thon-zu 284
hti (Ind.: *hti*) 52, 72, 76, 377

I

iccha (Ind.: *icchā*) (see also: eight funda-mental urges, dasha-siddhis) 22, 42, 112, 154, 228
Iconologia 4
ida-nadi (Ind.: *iḍā-nāḍī*) (see also: chaturdasha nadis) 23
illusion (see: moha)
India 4, 6, 7, 8, 9, 12, 15, 35, 42, 67-127, 160, 169, 170, 172, 192, 224, 230, 289, 292, 322, 325, 351, 352, 356, 358, 373, 376
Indianized 4
Indianized States 7, 8
Indian Ocean 362
Indo-China 68, 224, 361
Indonesia (Java) 129--168
Indor 67
Indore 94, 98, 102, 118, 374
Iṇdra (Ind.: *Indra*) 25, 40, 42, 44, 46, 96, 109, 184, 205, 206, 221
Indrajaya 44
indrakanta mandala (Ind.: *indrakānta maṇḍala*) (see also: mandala) 29
Indrapura 356
Indraraja 42
Indravarman 172, 176
Indravarman II 356
indriyas (Ind.: *indriyas*) ([ten] sense powers) 22, 74, 228, 299, 308, 312
irimbhaka (Ind.: *iṛṁbhaka*) (see also: dasha-vahini-kala) 22, 228
Irrawaddy 223, 238, 262
Isha (Ind.: *Īśā*) 42, 44
Ishana (Ind.: *Īśāna*) 40, 46, 96
ishitva (Ind.: *īśitva*) (see: dasha-siddhis) 22, 228
ishvarakanta mandala (Ind.: *īśvarakānta maṇḍala*) (see also: mandala) 29
Islam (Islamic) 8, 9, 15, 16, 17, 31, 67, 124, 126, 361, 364, 365
istanas 361
Italian 15

J

jagamohan (Ind.: *jagamohan*) 62
jala (Ind.: *jāla*) 164
Jaladhipa (Ind.: *Jalādhipa*) 42, 44
Janardana (Ind.: *Janārdana*) 118, 120
jangha (Ind.: *jaṁgha*) 40
Java (Indonesia) 7, 8, 9, 32, 34, 39, 129-168, 170, 175, 180, 185, 223, 224, 310, 352, 356, 358, 361, 373, 374, 375, 376, 377
Jayanta (Ind.: *Jayanta*) 42, 44
Jayavarman II 172, 176, 180
Jayavarman V 186
Jayavarman VII 170, 214, 314
Jefferson Memorial 8
Jerusalem 17
Jihad 15
Johor 361
Jonah 33
Judaic 32
Judaism 17
Judeo 15, 16
Jungian 3
Jupiter (see: Brihaspati or Guru)

K

Kailasa (Ind.: *Kailāsa*) 309
Kakusandha (Ind.: *Kakusandha*) 50, 248, 258, 274
kála (Ind.: *kāla*) ([three] times) 20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 264, 278, 286, 292, 326, 341
kalá(s) (Ind.: *kalā*) 88, 101, 122, 142, 250, 261, 313, 321kalan (Ind.: kalan) 352, 354
kalasha (Ind.: *kalaśa*) 238
kalasha-stupas (Ind.: *kalaśa-stupas*) 241
kama (Ind.: *kāma*) (pleasure, pssion; see also: five failings or weaknesses, tri-varga, Pradhar-thas) 20, 21, 80, 102, 158, 162, 166, 174, 183, 211, 226, 260, 276, 324, 328
kama-karshini (Ind.: *kāmā-karṣiṇī*) 23
kamadhatu (Ind.: *kamadhātu*) (see also: triloka) 20, 54, 132, 162, 218, 226, 249, 286, 316, 332, 334, 344, 352
kamaguna (Ind.: *kāmaguṇa*) (five senses) 21, 85, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 277, 294, 298, 324, 341
kamaloka (Ind.: *kāmaloka*) (see also: triloka) 23, 24, 36, 54, 55, 81, 96, 277, 308, 346
kamasugati-bhumi (Ind.: *kāmasugati-bhūmi*) 24, 42, 88, 93, 184, 204, 221, 244, 257
Kambuja (Khmer) 169-222, 290
kamma (Ind.: *kamma*) (twelve volitional actions) 20, 23, 85, 104, 121, 237, 241, 256, 260, 269, 294, 302, 320, 322
kammatthana (Ind.: *kammaṭṭhāna*) 25, 74, 251, 299, 309, 317
kampung 361
Kanakamuni (Ind.: *Kanakamuni*) 50, 248, 258, 274
Kandariya Mahadeo 32

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Karli 32, 67, 78, 81, 376, 377
karma (Ind.: *karma*) 16, 22, 26, 42, 50, 74, 85, 108, 120, 123, 190, 198, 211, 228
karnashtaka mandala (Ind.: *karṇāṣṭaka maṇḍala*) (see also: mandala) 28, 152
karshini (Ind.: *karṣiṇī*) 23
Karttikeya (Ind.: *Kārttikēya*) 96
Kashmiri Shaivism 25, 221, 309, 313
Kashyapa (Ind.: *Kaśyapa*) 50, 248, 258, 274
Kassapa (Ind.: *Kassapa*) 50, 248, 258, 274
Kathmandu 16, 32, 54, 274
Kedah 290, 361, 362
Kediri 7, 129, 164, 376, 377
Kelantan 290, 361, 366
Kerala 75, 98, 102, 374
Keraton Boko 150
Keshava (Ind.: *Keśava*) 118, 120
Keshava Temple (Ind.: *Keśava*) 118-123
Ketu (Ind.: *Ketu*) (descending node of the moon) 21, 23, 24, 25, 27, 28, 29, 30, 36, 74, 75, 80, 81, 88, 101, 108, 117, 122, 124, 142, 143, 159, 183, 204, 210, 212, 237, 250, 256, 261, 303, 321, 325, 328, 336, 341, 342, 344, 354, 377
Khajuraho 3, 32
khapphathat (Ind.: *khapphathat*) 376
Khao Barnsa 31
Khmer(s) 7, 9, 10, 129, 152, 155, 169-222, 192, 196, 200, 202, 203, 206, 214, 216, 221, 224, 289, 290, 292, 300, 304, 310, 314, 318, 333, 334, 337, 351, 352, 356, 358, 361, 374, 376
Khorat 377
Khüöng-my Shrine 351, 354, 376
Kilatali Shiva Temple (Ind.: *Kilatali Śiva*) 67, 102-105, 110, 374
Kingdoms of Sukhothai 9
Kingdoms of Sukhothai and Ayutthaya 9
King of the Law (see: dharmaraja)
Koh Ker 186
Konagamanda (Ind.: *Konagamada*) 50, 248, 258, 274
Konarak 118
kota (Ind.: *kota*) (of thirteen discs) 23, 52, 54, 72, 74, 76, 122, 377
Kotilal Fort 6, 67, 124
kotuva (Ind.: *kotuva*) 54
Krakucchanda (Ind.: *Krakuccanda*) 50, 248, 258, 274
Kraton Boko 150
Krishna (Ind.: *Kṛṣṇa*) 24, 27, 81, 96, 118, 120, 155, 184, 308
krodha (Ind.: *krōdha*) (anger; see: five failings or weaknesses) 21, 166, 183, 211, 276, 324
ksharaka (Ind.: *kṣāraka*) (see also: dasha-vahini-kala) 22, 228
Kshatriyas (Ind.: *Kṣatriyas*) 44
kshiti (Ind.: *kṣiti*) (see also: pancha-tanmatras, octave of Pra-kriti) 21, 22, 42, 112, 126, 142, 167, 179, 183, 190, 203, 212, 220, 241, 250, 264, 277, 294, 298, 324, 341
kshobhaka (Ind.: *kṣobhaka*) (see also: dasha-vahini-kala) 22, 228
Kuala Lumpur 31, 32, 361
Kubera (Ind.: *Kubēra*) 22, 40, 42, 46, 88, 93, 112, 154, 179, 194, 198, 204, 232, 237, 306, 321, 341
kuhu-nadi (Ind.: *kuhū-nāḍī*) (see also: chatur-dasha nadis) 23
Kuja (Ind.: *Kuja*) (Mars, Angaraka; see; Mangala)
Kumbha Mela 31
kunta (Ind.: *kunta*) 52, 76
kurma (Ind.: *kūrma*) 14
Kurmavatara (Ind.: *Kūrmavatāra*) 120, 216
kusala-kamma (Ind.: *kusala-kamma*) 20
kyaung 82
Kyanzittha 238, 242, 246

L

Ladh Khan 7, 67, 86-89, 172, 230
laghima (Ind.: *laghimā*) (see: dasha-siddhis) 22, 228
lakkhana (Ind.: *lakkhana*) 154, 218, 249, 316, 332, 334, 344, 352
Lakmuang 309
Lakshmi (Ind.: *Lakṣmī*) 20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 262, 278, 286, 292, 326, 341
Lakshnindralokeshvara (Ind.: *Lakṣnīndralokeśvara*) 356
lamas 17
Lamphun 289, 374, 376, 377
Lanna Tai 289
Lankatilaka (Ind.: *Lankatilaka*) 67, 110
Laos 290
Latin 214
Latin cross 192, 266
Laurentian Library 214
Lavo 300
Law (see: dharma)
Le Corbousier 7
lei-myet-hna 234, 242, 246, 274, 284
Lhasa 17
Libraries of Angkor 192
liberation (see: moksha; see also: Pradharthas)
linga (Ind.: *liṅga*) 9, 33, 94, 156, 160, 163, 176, 185, 186, 188, 198, 376
linga Indreshvara (Ind.: *liṅga Indreśvara*) 176, 202, 206, 210, 377
Lo Thai 304
Lo-hKhor bCu-gNyis-kyi Lha (twelve deities of the cycle of the twelve years) 23, 85, 88, 104, 121, 179, 204, 237, 241, 256, 260, 269, 280, 294, 317
lobha (Ind.: *lobha*) (greed; see: five failings or weaknesses) 21, 166, 183, 211, 276, 324
Loethai 304
Lohaprasad 27, 289, 344, 347
loka(s) (Ind.: *loka*) 6, 34, 70
lokapala(s) (Ind.: *lokapāla*) ([four] guardians of the quarters, Phyogs-sKyong) 20, 44, 46, 88, 92, 100, 104, 106, 121, 148, 153, 166, 190, 203, 206, 210, 216, 220, 232, 236, 240, 246, 250, 260, 269, 280, 298, 300, 310, 312, 316, 320,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

328, 332
Lokeshvara (Ind.: *Lokeśvara*) 218
lokuttara-dhamma (Ind.: *lokut-tara-dhamma*) (Supermundane States) 22, 149, 154, 159, 184, 194, 221, 228, 233, 308, 312, 346
London 8
Lop Buri 284, 318
Loro Jonggrang 32, 129, 140, 143, 144, 149, 150-155, 156, 172, 175, 251, 377
Los Angeles 3
lotus-bud 304, 309
Louis XIV 290
Lourdes 378
Lumbini 378

M

Madjapahit 130
Madjapahit Kingdom 164
Madura 7
madya (Ind.: *madya*) (wine; see: pancha-makara) 21, 277
magic square 19, 35, 373, 374
Maha-Bodhisattvas (Ind.: *Mahā-Bōdhisattvas*) (see: ashta-Maha-Bodhisattvas)
Maha-Kali (Ind.: *Mahā-Kālī*) 20, 72, 100, 162, 174, 194, 203, 226, 326
Maha-Lakshmi (Ind.: *Mahā-Lakṣhmī*) 20, 72, 100, 162, 174, 194, 203, 226, 326
Maha-Lingaraja Mandir (Ind.: *Mahā-Liṅgarāja Mandir*) 375
Maha-Sarasvati (Ind.: *Mahā-Sarasvatī*) 20, 72, 100, 162, 174, 194, 203, 226, 326
Maha-Vishnu (Ind.: *Mahā-Viṣṇu*) 118
Mahaballipurnam 32
Mahabharata (Ind.: *Mahābhārata*) 24, 120, 123, 342
mahabhutas (Ind.: *mahābhūtas*) (five sense parti-culars; see: pancha-bhutas) 21, 126, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 277, 294, 298, 324, 341
Mahabodhi (Ind.: *Mahābodhi*) 322, 377
Mahabodhisattvas (Ind.: *Mahā-bōdhisattvas*) 108, 220
mahachaitya (Ind.: *mahācaitya*) 56
Mahamanduka (Ind.: *Mahā-manduka*) 42
Mahapitha Mandala (Ind.: *Mahāpitha Maṇḍala*) (see also: mandala) 23, 88, 101, 122, 142, 250, 261, 313, 321, 342
Maharaja (Ind.: *Mahārāja*) 44
Mahathat 313
Mahayana (Ind.: *Mahāyana*) 6, 10, 15, 16, 17, 18, 31, 39, 50, 52, 68, 130, 138, 170, 214, 216, 221, 238, 274, 284, 314, 352, 356
Mahendra (Ind.: *Mahendra*) 42, 44
mahima (Ind.: *mahimā*) (see: dasha-siddhis) 22, 228
Mahler 261
maithuna (Ind.: *maithuna*) (sexual union; see: pancha-makara) 21, 277
Maitreya (Ind.: *Maitreya*) 50, 258, 274
majja (Ind.: *majja*) 21
makara(s) (Ind.: *makara*) 50, 238
Makuta 224
Malacca 361, 362, 368, 370
Malacca Sultanate 361
Malang 7, 129, 160
Malaya 9, 224, 289
Malaysia 9, 290, 361, 362, 366, 373, 375
mamsa (Ind.: *maṁsa*) (meat; see: pancha-makara) 21, 277
Manasara (Ind.: *Manasāra*) 4, 11, 19, 46, 338, 374
mandala(s) (Ind.: *maṇḍala*) 4, 6, 12, 14, 19, 20, 22, 23, 24, 26, 27, 29, 34, 35-51, 55, 56, 58, 60, 76, 78, 82, 84, 86, 88, 90, 92, 96, 98, 101, 102, 104, 106, 108, 110, 112, 114, 120, 122, 123, 124, 126, 132, 134, 136, 138, 140, 144, 146, 152, 156, 160, 164, 172, 178, 180, 182, 188, 196, 198, 202, 203, 208, 210, 216, 217, 226, 228, 229, 230, 233, 234, 238, 240, 242, 248, 250, 254, 257, 260, 261, 262, 265, 268, 272, 274, 277, 278, 282, 296, 300, 302, 306, 312, 313, 316, 320, 321, 328, 330, 334, 336, 338, 342, 344, 347, 370, 373
mandapa (Ind.: *maṇḍapa*) 31, 62, 90, 92, 94, 98, 101, 102, 112, 114, 116, 118, 121, 192, 196, 226, 230, 266, 268, 375
manduka (Ind.: *maṇḍūka*) 42
manduka mandala (Ind.: *maṇḍūka maṇḍala*) (see also: mandala) 22, 26, 35, 36, 42, 44, 46, 48, 58, 62, 72, 76, 78, 84, 86, 90, 92, 94, 98, 102, 106, 108, 112, 116, 120, 123, 129, 138, 140, 146, 152, 153, 160, 164, 172, 178, 180, 182, 188, 190, 192, 198, 202, 208, 211, 216, 217, 230, 234, 238, 242, 248, 254, 260, 262, 268, 272, 276, 278, 282, 286, 292, 296, 302, 306, 312, 316, 320, 322, 328, 330, 332, 334, 338, 347, 352, 354, 374, 375, 377
Mangala (Ind.: *Maṅgala*) (Mars, Kuja, Anga-raka) 22, 24, 25, 26, 27, 28, 29, 30, 36, 96, 123, 142, 154, 155, 159, 184, 191, 195, 198, 212, 221, 228, 233, 265, 308, 309, 312, 313, 342, 346
mangala (Ind.: *maṅgala*) 25
Mangalartha 352
Manipura 21, 112, 328
manipura chakra (Ind.: *maṇipūra cakra*) (see also: chakra) 22, 74, 85, 108, 228, 244, 277, 299,
Manjeri 6, 67, 98, 102, 374
Mannerist 3
mantapa (Ind.: *maṇṭapa*) 31, 62
mantra (Ind.: *mantra*) 81
Manushi Buddhas (Ind.: *Mānuṣī Buddhas*) 50, 248, 274, 276
marmas (Ind.: *marmas*) 58, 98, 138, 373
Mars (Kuja, Angaraka; see: Mangala)
marut (Ind.: *marut*) (see also: pancha-tanmatras) 20, 302, 320, 322
masa (Ind.: *masa*) (see also: sapta-dhatu) 21

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Masaon 374
masjid 361, 362, 364, 365, 366, 370
Masjid Kampung Hulu 361, 368, 370
Masjid Kampung Kling 361, 368, 370
Masjid Kampung Laut 8, 361, 366, 375
Masjid Terengkera 361, 362, 366, 370
Masjid Terenhkera 375
Masjid Tranquerah 362, 364
Matarams 130
Matrix World Mandala (see also: mandala) 39, 50, 138
matsya (Ind.: *matsya*) (fish; see: pancha-makara) 21, 277
Matsya Yantra (Ind.: *Matsya Yantra*) 21
Matsyavatara (Ind.: *Matsyavatāra*) 120
Maya (Ind.: *Māyā*) 240, 250, 277, 298, 324
Mayamata (Ind.: *Mayamata*) 4, 11, 140
Mayamatam (Ind.: *Mayamatam*) 19
Mayan 3, 376
mChod-rten (stupa, chaitya) 22, 42, 48, 56, 108, 112, 154, 194, 204, 210, 220, 232, 237, 242, 308, 321
mChod-rten-Che brGyad (eight Great Stupas; see: Ashta-Mahachaitya)
me-ri 48
meat (see: mamsa)
Mecca 17, 362
meda (Ind.: *meda*) (see also: sapta-dhatu) 21
medhi (Ind.: *medhi*) 33, 70
Medieval Europe 32
Mehi-hKhor-lo 48
Mekong River 289
Melayu 289, 361
men (see: hGro-ba Rigs Drug)
mental exercises 25, 299, 309, 317
Mercury (see: Budha)
merit 31
Metal Palace 344
Mettaya (Ind.: *Mettaya*) 50, 258, 274
Mi-son 354
Michaelangelo 214
mikhrab 362, 366, 368, 370
Mingala-zeidi 34, 223, 238, 278, 281, 376,
Minnanthu 284
Miracle of Savatthi 214, 266
Miraculous Divine Abode 48
Mitra (Ind.: *Mitra*) 42, 44
moha (Ind.: *moha*) (illusion; see: five fail-ings or weaknesses) 21, 166, 183, 211, 276, 324
mohaka (Ind.: *mohaka*) (see also: dasha-vahini-kala) 22, 228
Mohamad 365
Mohenjo-daro 223
moksha (Ind.: *mokṣa*) (liberation; see also: Pradharthas) 20, 166, 260, 328
Mon 246, 290, 292, 300, 330
Monastery of the Bodhi Tree 338
Monastery of the Seven Pinnacles 322
mondhop(s) 226, 326, 328
Mongols 67, 223, 278
Monk King 224
monsters (see: hGro-ba Rigs Drug)
Moon (see Chandra) 20, 23, 24, 25, 26, 27, 28, 29, 30, 36, 42, 74, 75, 70, 80, 85, 88, 92, 93, 96, 100, 102, 104, 106, 108, 117, 121, 122, 124, 142, 143, 153, 159, 166, 179, 183, 184, 190, 204, 211, 213, 221, 237, 241, 244, 245, 251, 256, 257, 260, 265, 269, 280, 294, 298, 299, 302, 303, 308, 312, 313, 316, 317, 320, 322, 326, 328, 332, 336, 341, 342, 344, 346, 354, 377
moonstone (see: navaratna)
Moses 32
mosque(s) (see also: masjid) 31, 32
Mount Abu 118
Mount Kailasha 31, 150, 155, 167, 176, 180, 185, 186
Mount Meru (Mount Sumeru) 26, 31, 32, 54, 167, 176, 180, 185, 186, 257, 198, 205, 216, 257, 295, 306, 337, 376
Mount Sinai 32
Mountain of Fire 48
Mriga (Ind.: *Mṛga*) 42, 44
Mrisha (Ind.: *Mṛṣa*) 42, 44
mudra (Ind.: *mudra*) (parched grain; see: pancha-makara) 21, 234, 237, 258, 277, 292
mudra (Ind.: *mudrā*) (hand gesture) 138, 284
Mughals 67, 361
mukhamandapa (Ind.: *mukha-maṇḍapa*) (mukhamantapa) 62, 94, 96, 114
mukhamantapa (Ind.: *mukha-maṇṭapa*) (See: mukhaman-dapa)
mukhashala (Ind.: *mukhaśālā*) 31, 62
Mukhya (Ind.: *Mukhya*) 42, 44
Muladhara (Ind.: *Mūlādhāra*) (see: Muladhara Chakra; see also: chakra)
Muladhara Chakra (Ind.: *mūlādhāra cakra*) (see also: chakra) 20, 21, 88, 92, 100, 104, 106, 112, 121, 153, 166, 203, 210, 220, 328, 232, 240, 250, 269, 280, 298, 312, 317, 320, 332
Muslim 362, 373
Murugan (Ind.: *Murugan*) 31, 32
Myanmar (Burma) (Pagan) 9, 16, 33, 52, 67, 129, 223-287, 223, 224, 290
Myin-Pya-Gu 223, 234, 237, 242, 246, 374, 375, 377
Myinkaba Kubyauk-Nge 223, 266, 268, 269, 286

N

Nabi Mohamad (see also: Mohamad) 33, 365
Nachna 226, 373
nadi (Ind.: *nāḍī*) 23
naga(s) (Ind.: *nāga*) 42, 44, 164, 214
Naga-Yon 105, 223, 242, 245, 252, 254, 260, 270, 286, 374
nagara (Ind.: *nāgara*) 62
Nakorn Pathom 34
Nakorn Si Thammarat 296
nakshastras (Ind.: *nakṣastras*) 25, 36
nama-karshini (Ind.: *nāmā-karṣinī*)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

23
Nan 292
Nan-Hpaya 33, 105, 223, 230, 242, 252, 254
nanam (Ind.: *ñāṇaṃ*) 54
Nangklao 344
Nantaungnya 266
napumsakashila (Ind.: *napuṁsa-kaśilā*) 14
Narai the Great 290
Narathihapati 238, 278
Narathu 258
Naresuan the Great 290
Narittamalai 373, 374
nasika (Ind.: *nasika*) 40
Nat(s) 224, 226, 289
National Cathedral 32
Nat-Hlaung-Kyaung 223, 226, 229, 230, 270
nava-Buddhaguna (Ind.: *nava-Buddhaguṇa*) (nine virtues of the Buddha; see also: Buddhaguna)
nava-Durgas (Ind.: *nava-Durgās*) (nine Durgas) 22, 96, 154, 159, 183, 194, 221, 228, 233, 265, 308
nava-mudras (Ind.: *nava-mudrās*) (nine mudras) 22, 96, 154, 159, 183, 194, 221, 228, 233, 265, 308
nava-nadis (Ind.: *nava-nāḍīs*) (nine nadis) 22, 96, 154, 159, 184, 194, 221, 228, 233, 265, 308
nava-ratha (Ind.: *nava-ratha*) 238
Navagraha(s) (Ind.: *Navagraha*) (nine planets) 22, 30, 96, 134, 149, 154, 159, 182, 183, 194, 212, 216, 221, 228, 233, 265, 308, 346
nava-lokuttara-dhamma (Ind.: *nava-lokuttara-dhamma*) (nine supermundane states; see also: lokuttara-dhamma)
navāvarana puja (Ind.: *navavāraṇa puja*) (nine level worship) 22, 96, 154, 159, 184, 194, 221, 228, 233, 265, 308, 312
navaranga (Ind.: *navaranga*) 62
navaratna (Ind.: *navaratna*) (nine jewels [pearl, ruby topaz, diamond, emerald, coral, sapphire, moonstone, sardonyx]) 22, 96, 149, 154, 159, 184, 194, 221, 228, 233, 265, 308, 312
Neak Pean 70
Near-East 9
nectar (see: soma)
Negri Sembilan 361
Neo-Platonic 218
Nepal 16, 34
Netherlands 361
New Testament 18
nga-myet-hna 274, 284
Ngo-tshar lHai gZhal-yas Khang 48
niddhi(s) (Ind.: *niddhi*) 27, 184
nidhikumbha (Ind.: *nidhikumbha*) 14
nine classes of Yoginis 22, 96, 154, 159, 184, 194, 221, 228, 233, 265, 308, 312
nine Durgas (see: nava-Durgas)
nine level worship (see: navavarana puja)
nine mudras (see: nava-mudras)
nine nadis (see: nava-nadis)
nine planets (see: navagrahas)
nine jewels (see: navaratna)
nine supermundane states (see: lokuttara-dhamma)
nine virtues of the Buddha (see: Buddhaguna)
Nirritti (Ind.: *Nirṛttī*) 40, 46
Nirvana (Ind.: *Nirvāṇa*) 16
Nitya(s) (Ind.: *Nityā*) (see: panchadasha-Nityas)
Nonya 362
nor-bu 50
Nor-bu Chab-bDun (seven different jewels) 21, 74, 80, 143, 148, 183, 204, 237, 256, 302, 325, 336, 341, 344
Nor-bu-chab-bdun 48
North America 31
North Indian 31
Notre Dames 114, 379
nrittamandapa (Ind.: *nṛttamandapa*) 62
nrittamantapa (Ind.: *nṛttamantapa*) 62
Numerology 19-29
Nyi-Zla 56

O

objects of human pursuit (see: trivarga)
octave of Prakriti (see also: akasha, vayu, tejas, ap, kshiti, sattva, rajas, tamas)22, 42, 88, 93, 112, 154, 179, 194, 198, 204, 232, 237, 308, 321
Old Testament 33
Old Ways 68
Orissa 114

P

Pa Sak 300
pachaka (Ind.: *pācaka*) (see also: dasha-vahini-kala) 22, 228
pad-ma 50
Pad-mahi Ra-ba 48
pada (Ind.: *pāda*) 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 36, 38, 40, 62, 84, 86, 88, 90, 92, 94, 96, 100, 101, 102, 104, 108, 112, 114, 116, 117, 122, 123, 124, 134, 140, 142, 146, 152, 153, 154, 159, 164, 166, 183, 184, 188, 190, 192, 194, 196, 203, 210, 211, 212, 221, 226, 228, 232, 233, 240, 248, 250, 260, 261, 262, 265, 277, 278, 280, 286, 292, 296, 308, 309, 310, 312, 313, 321, 328, 332, 342, 346, 347, 352, 366, 373
"paddy heap" 72, 76
padma (Ind.: *padma*) 14, 50
Padma Purana (Ind.: *Padma Purāṇa*) 120
padmagarbha mandala (Ind.: *padmagarbha maṇḍala*) (see also: mandala) 27, 62, 108, 210, 316
Pagan 7, 8, 9, 10, 18, 33, 34, 55, 69, 82, 102, 104, 105, 110, 112, 129, 144, 223-287, 289, 322, 358, 373, 374, 375, 376, 377, 378
pagoda 364
Pahang 361

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Index (Continued)

Paharpar 188
pancha-balani (Ind.: *pañca-balāni*) (five forces) 21, 52, 85, 106, 166, 179, 183, 190, 203, 211, 220, 240, 242, 250, 264, 277, 294, 298, 324
Pancha-Buddha(s) (Ind.: *Pañca-Buddha*)a (five Bud-dhas) 21, 50, 56, 84, 85, 106, 142, 166, 183, 190, 203, 212, 220, 223, 241, 250, 264, 276, 277, 282, 284, 294, 298, 324, 341, 377
pancha-kanchuka(s) (Ind.: *pañca-kañcuka*) (five evo-lutes of Maya) 21, 126, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 277, 294, 298, 324, 341
pancha-raksha (Ind.: *pañca-rakṣa*) (five protect-resses, bSrung-ma lNga) 21, 85, 106, 142, 166, 183, 190, 203, 212, 220, 241, 250, 264, 277, 294, 298, 324, 341
[pancha]-skandha (Ind.: [*pañca*]-*skandha*) (see: skandha)
pancha-tanmatras (Ind.: *pañca-tanmātras*) (five ele-ments, five subtle elements; see: tan-matras; see also: akasha, vymon, vayu, ma-rut, tejas, agni, ap, kshiti, prithvi) 19, 20, 21, 72, 80, 88, 92, 100, 102, 121, 126, 142, 153, 158, 163, 166, 167, 174, 179, 183, 188, 194, 203, 211, 212, 220, 226, 232, 236, 240, 241, 250, 255, 260, 264, 269, 276, 277, 278, 280, 286, 294, 298, 302, 312, 320, 322, 324, 326, 328, 341
pancha-Tathagata (Ind.: *pañca-Tathāgata*) (five mys-tics, De-bZhin-gShegs-pa) 21, 56, 85, 106, 142, 166, 183, 190, 203, 212, 220, 241, 242, 250, 264, 277, 294, 298, 324, 341
pancha-tattva (Ind.: pañca-tattva) (five truths) 21, 106, 126, 166, 179, 183, 190, 203, 211, 220, 240, 242, 250, 264, 277, 294, 298, 324, 341
panchabhutas (Ind.: *pañcabhūtas*) (five sense par-ticulars, mahabhutas; see also: akasha, vayu, tejas, prithivi) 21, 126, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 277, 294, 298, 324, 341
panchadasha-Nityas (Ind.: *pañcadaśa-Nityas*) (fifteen Nityas) 23, 81
panchadasha-Tithis (Ind.: *pañcadaśa-Tithis*) (fifteen Tithis) 23, 81
panchadashi (Ind.: *pañcadaśī*) Shri Vidya mantra (fifteen letters of the Shri Vidya mantra) 23, 81
panchamakara (Ind.: *pañcamakāra*) (five "M's"; see also: madya, mamsa, matsya, mudra, maithuna) 21, 85, 126, 142, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 277, 294, 298, 324, 341
Panchamukha Hanuman (Ind.: *Pañcamukha Hanūmān*) (five-headed Hanuman) 21, 106, 126, 166, 179, 183, 190, 203, 211, 220, 240, 242, 250, 264, 277, 294, 298, 324, 341
Pancharaksha (Ind.: *Pañcarakśa*) 106, 242
pancharatha (Ind.:) 6, 56, 60, 68, 132, 140, 152, 160, 238, 254, 262, 264, 314, 330, 347, 352, 373 .
Panchen Lama 17
panchindriyani (Ind.: *pañcin-driyāni*) 52
Pango Chorten 56
paramashayika mandala (Ind.: *paramaśayika maṇḍala*) (see also: mandala) 26, 35, 38, 40, 42, 44, 46, 50, 84, 86, 94, 98, 112, 116, 120, 129, 138, 140, 142, 146, 152, 160, 164, 172, 178, 180, 182, 188, 190, 192, 198, 202, 208, 230, 234, 238, 248, 254, 260, 262, 276, 278, 286, 292, 296, 302, 306, 316, 320, 332, 334, 352, 354, 366, 377
Paramatrailokanatha (Ind.: *Paramatrailōkanātha*) 326
parched grain (see: mudra)
Paris 114
parivara (Ind.: *parivāra*) 246
Parjanya (Ind.: *Parjanya*) 42, 44
Parthenon 8
parvas (Ind.: *parvas*) 123, 342
Parvati (Ind.: *Pārvatī*) 20, 29, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 264, 278, 286, 292, 326, 341
Parvati Temple 226, 373
Parvatisahasranama (Ind.: *Pārvatī-sahasranāmā*) 29
passion (see: kama)
past (see: bhuta-kala)
patalas (Ind.:) 34
paticcasamuppada (Ind.: *paticcasa-muppāda*) (twelve dependent originations) 23, 85, 104, 121 , 204, 237, 241, 256, 260, 269, 281, 294, 317
Paya-gyi Zeidi 33
payasvini-nadi (Ind.: *payasvinī-nāḍī*) (see also: chatur-dasha nadis) 23
Paya-Thon-Zu 223, 284, 377
pearl (see: navaratna)
pechaka mandala (Ind.: *pecaka maṇḍala*) (see also: mandala) 20, 88, 92, 100, 104, 121, 153, 166, 203, 232, 250, 269, 280
Pentagonal Temple 223, 282, 284, 377
pentagram 277
Perak 361
perfumed chambers 274
Periclean Athens 117
Perlis 290, 361
Persians 67
Pervara 150
phallus (see also: linga) 376
Phan-thiet 351, 352
Phimai Temple 169, 192-195
Phnom Bakheng 180
Pho-hai Shrine 351, 352
Phra 33
Phra Chao Phananchoeng 300
Phra Chedi Luang 33
Phra Mondhop 226
Phra Phuttha Thewa Patimakon 338
Phra Prang Sam Yot 284
phra rabiang 334, 336, 338, 340, 341
Phrasat Tong 334

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Phyogs-bCu (Ten Directions) 22, 74, 85, 108, 228, 244, 277, 299, 308, 313, 317
Phyogs-sKyong (four guardians of the quarters; see: lokapala)
Piazza S. Pietro 163
pilimage 110
pingala-nadi (Ind.: *piṅgala-nāḍī*) (see also: chatur-dasha nadis) 23
pipal (see also: bodhi tree) 309
Pisa 8
pitha mandala (Ind.: *pīṭha maṇḍala*) (see also: mandala) 22, 96, 124, 126, 149, 152, 154, 159, 184, 194, 221, 228, 233, 265, 308, 312
Pitri (Ind.: *Pitṛ*) 42, 44
Planes of Existence 24, 42, 70, 88, 93, 184, 204, 213, 221, 237, 244, 256, 308, 342
plavaka (Ind.: *plāvaka*) (see also: dasha-vahini-kala) 22, 228
pleasure (see: kama; see also: trivarga)
Pleiades 25, 74, 299, 309, 317
Polonnaruwa 7, 67, 68, 105, 106, 108, 109, 110, 112, 113, 292, 322, 376
Polpulli 98
Pope Clement IX 290
Portugal (Portuguese) 361, 362
pradakshina (Ind.: *pradakṣiṇā*) 33, 46, 62, 70, 78, 138, 162, 214, 246, 378
pradakshinapatha (Ind.: *pradakṣiṇāpatha*) 33, 55, 62, 70, 72, 76, 86, 90, 100, 102, 110, 118, 146, 214, 226, 230, 234, 236, 237, 242, 244, 246, 248, 249, 252, 254, 258, 260, 261, 262, 264, 272, 282, 378
pradharthas (Ind.: *pradhārthas*) (see aslo: dharma, artha, kama, moksha)20, 86, 92, 100, 121, 153, 166, 190, 203, 232, 236, 249, 260, 280, 298, 320, 328
Prah Ko 172
Prajapati (Ind.: *Prajāpati*) 25, 109, 184, 205, 221
Prajnaparamitra (Ind.: *Prajñāpāramitrā*) 314
prakamya (Ind.: *prākāmya*) (see: dasha-siddhis) 22, 228
Prakriti (Ind.: *Prakṛti*) 22, 93, 154, 194, 198, 204, 232, 237, 308, 321, 341
Prambanan 6, 32, 129, 140, 144, 148, 150, 156, 162, 164, 175, 376, 377
Prang 376
prang 310, 313, 314, 316, 317, 318, 320, 334, 337
prangs 312, 313, 318, 338
Prasada Tong 334
prasat 300, 326, 356
Prasat Hin Phimai 169, 192, 195, 196, 300, 377
Pre Rup 175, 186
Preah Khan 214
Preah Ko 152, 169, 172-175, 176, 196, 200, 221, 284, 376, 377
present (see: vartamana-kala)
pride (see: ahmkara)
Prince U-tong 300
prithivi (Ind.: *pṛthivi*) (earth; see: pancha-bhutas) 21, 166
Prithividhara (Ind.: *Pṛthividhara*) 42, 44
prithvi (Ind.: *pṛthvi*) (see also: pancha-tan-matras) 21, 126, 142, 167, 179, 183, 190, 203, 212, 220, 241, 250, 264, 277, 294, 298, 324, 341
Prome 33
Psychic Functions 23, 303
puja (Ind.: puja) 31, 78, 234, 308, 312
purpose (see: artha; see also: trivarga)
purusha (Ind.: *puruṣa*) 38, 40
pusha-nadi (Ind.: *pūṣā-nāḍī*) (see also: chatur-dasha nadis) 23
Pushan (Ind.: *Pūṣan*) 42, 44
Pushpadanta (Ind.: *Puṣpadanta*) 42, 44
pushpaka (Ind.: *puṣpaka*) 62
Pyramids 8, 376
Pyramids of Gizah 129
Pyu 223, 226, 230, 234, 238

Q

Qinian Dian 8
Qur'anic 364

R

rabiang 314, 318
raharatha (Ind.: *raharatha*) 58, 254, 262, 330, 352
Rahu (Ind.: *Rāhu*) (ascending node of the moon) 20, 23, 24, 25, 26, 27, 28, 29, 30, 36, 42, 74, 75, 88, 92, 93, 100, 101, 102, 104, 106, 117, 121, 122, 123, 153, 166, 184, 190, 203, 204, 210, 211, 232, 236, 240, 250, 251, 260, 269, 280, 298, 299, 303, 309, 312, 316, 317, 320, 328, 332, 336, 342, 346
raj 356
Rajarani Temple (Ind.: *Rājaranī*) 118
rajas (Ind.: *rajas*) (see also: octave of Pra-kriti, eight funda-mental urges) 22, 42, 112, 154
Rajendravarman 186
rajoguna (Ind.: *rajoguṇa*) (see: guma) 20, 162, 226
Rakshasa (Ind.: *Rakṣasa* or *Rakṣaṣa*) 16, 42, 44
rakta (Ind.: *rakta*) (blood; see also: sapta-dhatu) 21
Rama (Ind.: *Rāma*) 155
Rama I 338, 342
Rama III 344
Rama V 342
Ramathibodi 300
Ramathibodi I 326
Ramathibodi II 326
Ramatibodi I 314
Ramayana 155
Ramesuan 314, 330
Ramkamhaeng 296
Ramkamhaeng the Great 290
rasa (Ind.: *rasa*) (taste; see: tanmatras, pancha-tanmatras sapta-dhatu) 21, 211, 276
rasa-karshini (Ind.: *rasā-karṣiṇī*) 23

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ratha(s) (Ind.: *ratha*) 60, 152, 352, 354, 373, 375
ratna (Ind.: *ratna*) 50
Ratnasambhava (Ind.: *Ratnasambhava*) 50, 138, 274, 276
Rattanakosin 289, 290, 300, 309, 333, 342, 374, 377
Ravi (Ind.: *Ravī* or *Raviḥ*) 19, 22, 23, 24, 25, 26, 27, 28, 29, 30, 42, 74, 81, 85, 88, 93, 96, 100, 101, 104, 117, 121, 122, 123, 142, 179, 184, 190, 191, 198, 205, 211, 221, 228, 237, 241, 244, 250, 256, 257, 260, 261, 269, 294, 299, 303, 308, 313, 321, 328, 342
rDo-rje 48
rDo-rje Ra-ba 48
rDo-rje rGya-gram 48
rechaka (Ind.: *recaka*) (see also: dasha-vahini-kala) 22, 228
Reclining Buddha 338
rectangle 6
Red Fort 7
rGyal-ba Rigs lNga 50
rGyan drug (six crowns of wisdom) 21, 112, 149, 174, 250, 269, 320, 328
Rig-Veda (Ind.: *Ṛg-Veda*) 22, 42, 74, 123, 190, 228, 299, 308, 312
Rigs-gSum mGon-po (three patrons) 20, 72, 80, 85, 158, 162, 174, 188, 194, 203, 218, 226, 249, 255, 264, 278, 286, 316, 326, 332, 334, 341, 344, 352
riksha (Ind.: *ṛkṣa*) 12
Rin-chen sNa-bDun (seven royal jewels; see: sapta-ratna)
Roga (Ind.: *Roga*) 42, 44
Roluos 32, 152, 169, 172, 176, 284, 374, 376, 377
Roman 20, 78, 163, 320, 322, 375, 379
Roman Catholic (Roman Catholicism) 17, 33
Romanesque 114, 375
Rome 3, 8, 17
Ronchamp 7
Royal Wat(s) 290, 313
ruanthat 376
ruby (see: navaratna)
Rudra(s) (Ind.: *Rudra*) 23, 25, 42, 44, 74, 109, 184, 205, 221
Rudraraja (Ind.: *Rudrarāja*) 42, 44
rupa (Ind.: *rūpa*) (form; see: tanmatras, pancha-tanmatras, skan-dhas) 21, 211, 276, 277
rupa-karshini (Ind.: *rūpā-karṣiṇī*) 23
rupadhatu (Ind.: *rūpadhātu*) (see also: triloka) 20, 54, 132, 162, 218, 226, 249, 286, 316, 332, 334, 344, 352
rupaloka (Ind.: *rūpaloka*) (see also: triloka) 23, 24, 36, 54, 55, 81, 96, 277, 308, 346
rupavachara-bhumi (Ind.: *rūpāvacara-bhūmi*) 24, 42, 88, 93, 184, 204, 221, 244, 257
Ruvanveli Dagoba (Ind.: *Ruvanveli Dāgoba*) 8, 52, 374, 376
Ruvanveliseya Dagoba (Ind.: *Ruvanveliseya Dāgoba*) 76-77, 373

S

S. Pietro 163
S. Sernin 114, 379
Saarinen 8
Sahasra Dala Kamala (Ind.: *Sahasra Dala Kamala*) 29, 50
Sai Nam Phung 300
Sakala Mandala (Ind.: *Sakala Maṇḍala*) (see also: mandala) 19
sala kan parian 338
sala(s) (Ind.: *sāla*) 338
Samkhaya (Ind.: *Saṁkhayā*) 24, 328
Samsara (Ind.: *Saṁsāra*) 48
Sanchi (Ind.: *Sanci*) 8, 33, 34, 67, 70, 76, 172, 373, 374
sangha (Ind.: *saṅgha*) (community of monks; see: three refuges) 20, 54, 80, 84, 85, 136, 156, 158, 163, 174, 218, 226, 249, 255, 264, 278, 286, 294, 316, 326, 332, 334, 341, 344, 352
Sangharaja (Ind.: *Saṅgharāja*) 224
sanghawat (Ind.: *saṅghawat*) 326, 338, 344
Sangs-rgyas Rab-bDun (seven Buddhas of the past) 21, 74, 80, 143, 148, 183, 204, 237, 256, 302, 325, 336, 341, 344, 354
Sangs-rgyas sTong 29, 50
sanini (Ind.: *sanini*) (see: skandhas) 21, 277
sanskara (Ind.: *saṅskara* or *saṅskhāra*) (see: skandhas) 21, 277
Santiago de Compastella 378
Sapada Temple (Ind.: *Sapada*) 266
Sapada Zeidi 34
saphire (see: navaratna)
sapta-arania (Ind.: *sapta-araṇia*) (seven deserts) 21, 80, 88, 124, 143, 183, 237, 256, 302, 325, 341
sapta-dhatu (Ind.: *sapta-dhātu*) (seven roots; see also: rasa, rakta, masa, majja, sati, meda, sukra) 21, 80, 88, 124, 142, 183, 237, 256, 302, 324, 341
sapta-dwipa (Ind.: *sapta-dwipa* or *sapta-dvipa*) 21, 80, 88, 124, 143, 183, 237, 256, 302, 325, 341
sapta-loka (Ind.: *sapta-loka*) (seven worlds) 21, 80, 88, 124, 143, 183, 237, 256, 302, 325, 341
sapta-matrikas (Ind.: *sapta-mātṛkās*) (seven mothers) 21, 74, 80, 88, 124, 142, 183, 204, 212, 236, 256, 302, 324, 336, 341, 344
sapta-pura (Ind.: *sapta-pura*) (see: seven cities) 21, 80, 88, 124, 143, 183, 237, 256, 302, 325, 341
sapta-rishis (Ind.: *sapta-ṛṣis*) (seven seers) 21, 80, 88, 124, 143, 183, 237, 256, 302, 325, 341
sapta-samudra (Ind.: *sapta-samudra*) (seven holy seas) 21, 80, 88, 124, 143, 183, 237, 256, 302, 325, 341
sapta-ratna (Ind.: *sapta-ratna*) (seven royal jewels, Rin-chen sNa-bDun) 21, 48, 74, 80, 143, 148, 183, 204, 237, 256, 302, 325, 336, 341, 344, 354
Sarasvati (Ind.: *Sarasvatī*) 20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 262, 278,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

286, 292, 326, 341
sarasvati-nadi (Ind.: *sarasvatī-nāḍī*) (see also: chaturdasha nadis) 23
sardonyx (see: navaratna)
Sarva Saubhagya-Dayaka Chakra (Ind.: *Sarva Saubhāgya-Dāyaka Cakra*) (see also: Chatur-dasha-dala trikona)
sarva-kamasiddhi (Ind.: *sarva-kāmasiddhi*) (see: dasha-siddhis) 22, 228
sati (Ind.: *satī*) (see also: sapta-dhatu)21
Satmahal 292
satta-bojjhanga (Ind.: *satta-bojjhaṇgā*) (seven factors of Enlightenment) 21, 52, 74, 80, 88, 124, 142, 148, 183, 204, 237, 256, 302, 324, 336, 341, 344, 183
sattva (Ind.: *sattva*) (see also: octave of Prakriti, eight fundamental urges) 22, 42, 112, 154
sattvaguna (Ind.: *sattvaguṇa*) (see: guma) 20, 162, 226
Saturn (see: Shani)
Satyaka (Ind.: *Satyaka*) 42, 44
sauvastika (Ind.: *sauvastika* or *svastika*) 70
Savindra (Ind.: *Savindra*) 42, 44
Sávindra 42, 44
Saw La 234
Schwe-Zigon Pagoda 50, 238-241, 373
seed (see: bija) Sense Elements 24
Selangor 361
Sermon on the Mount 32
seven Buddhas of the past (see: Sangs-rgyas Rab-bDun)
seven cities (see: sapta-pura)
seven deserts (see: sapta-arania)
seven different jewels (see: Nor-bu Chab-bDun)
seven factors of Enlightenment (see: satta-bojjhanga)
seven holy seas (see: sapta-samudra)
seven mothers (see: sapta-matrikas)
seven noble Treasures (see: ariyadhanna)
seven roots (see: sapta-dhatu)
seven royal jewels (see: sapta-ratna, Rin-chen sNa-bDun)
seven seers (see: sapta-rishis)
seven worlds (see: sapta-loka)
sexual union (see: maithuna)
shabda (Ind.: *śábdā*) (sound; see: tanmatras, pancha-tanmatras) 21, 211, 276
shabda-karshini (Ind.: *sabda-karshini*) 23
Shailendra (Ind.: *Śailendra*) 10, 129, 130, 180
Shaiva(s) (Ind.: *Śaiva*) (Shaivite, Shaivism) 15, 30, 42, 98, 120, 123, 130, 150, 156, 164, 176, 206, 221, 309, 313
Shakti (Ind.: *Śakṭī*) 15, 42, 90
Shakti Devi (Ind.: *Śakṭī Devī*) 92
Shakti-Shakta (Ind.: *Śakṭī-Śakṭā*) 20, 32, 302, 320, 322, 376
Shakyamuni (Ind.: *Śakyāmuni*) (Buddha) 50, 248, 274
Shani (Ind.: *Śani*) (Saturn) 22, 24, 25, 26, 27, 28, 29, 30, 42, 75, 88, 93, 108, 112, 122, 123, 142, 154, 179, 184, 190, 194, 198, 204, 210, 213, 221, 232, 237, 242, 244, 251, 257, 308, 321, 336, 342, 98, 204, 210, 221, 232, 237, 242, 244, 251, 257, 308, 321, 336, 342
shankhini-nadi (Ind.: *śaṅkhiṇī-nāḍī*) (see also: chatur-dasha nadis) 23
shantika (Ind.: *Śantika*) 11
shantika asana (Ind.: *śantika āsana* or *śantikāsana*) 11
shantika sthanaka (Ind.: *śántika sthānaka*) 11
Sharabha Yantra (Ind.: *Śarabha Yantra*) 21
sharira-karshini (Ind.: *śarīrā-karṣiṇī*) 23
shashana (Ind.: *śaṣaṇa*) (see also: dasha-vahini-kala) 22, 228
shat-karmas (Ind.: *ṣaṭ-karmas*) (six acts) 21, 112, 174, 250, 269, 320, 328
shatkona (Ind.: *ṣaṭkoṇa*) (six-pointed star) 21
shatkona-chakra (Ind.: *ṣaṭkoṇa-cakra*) 21, 112, 174, 250, 269, 320, 328
Shayana (Ind.: *Śayana*) 11
shikhara (Ind.: *śikhara*) 14, 200, 198, 214, 217, 221, 230, 238, 242, 246, 248, 249, 254, 257, 258, 260, 261, 262, 266, 268, 272, 282, 304, 375, 376
Shiva (Ind.: *Śiva*) 19, 20, 22, 26, 31, 42, 72, 80, 88, 93, 94, 96, 100, 102, 108, 112, 118, 123, 126, 136, 150, 154, 155, 158, 162, 167, 174, 179, 188, 190, 194
Shiva Temple 67, 94-97, 98, 102, 118, 373, 374
Shiva-Parvati (Ind.: *Śiva-Pārvatī*) 376
shodasha-karshini (Ind.: *ṣoḍaśa-karṣiṇī*) 23, 88, 101, 122, 142, 250, 261, 313, 321, 342
Shostakovich 261
Shodashi Yantra (Ind.: *Ṣoḍaśi Yantra*) 25
Shosha (Ind.: *Śhoṣa*) 42, 44
Shri Chakra (Ind.: *Śrī Cakra*) 22, 23, 74, 96, 117, 154, 159, 184, 194
Shri Kshetra (Ind.: *Śrī Kśetra*) 223
Shri Vidya (Ind.: *Śrī Vidyā*) 81
Shri Vidya mantra (Ind.: *Śrī Vidyā mantra*) 23
Shroud of Turin 378
Shudra (Ind.: *Śūdra*) 44, 46
Shukra (Ind.: *Śukra*) (Venus) 21, 23, 24, 25, 26, 27, 28, 29, 30, 36, 42, 81, 88, 93, 101, 108, 109, 112, 122, 123, 142, 175, 184, 190, 204, 205, 211, 221, 237, 244, 250, 251, 261, 269, 295, 309, 313, 320, 321, 342
Shwe-Hsan-Daw 238
Shwe-Zigon 268, 274
Shwe-Zigon Pagoda 223, 238, 240, 274, 281, 377
Si Satchanalai 289, 374, 378
Siam 9, 289
siddha(s) (Ind.: *siddha*) 26
siddhi(s) (Ind.: *siddhi*) 27, 184
simhasana (Ind.: *siṁhāsana*) 238
Singhalese 69, 75, 76, 322
Singhasari Dynasty 160, 162

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sita (Ind.: *Sītā*) 155
sita (Ind.: *sītā*) (see also: eight funda-mental urges) 22, 42, 112, 154
Sithu I 18, 252
six acts (see: shat-karmas)
six beings (see: hGro-ba Rigs Drug)
six Buddhas (see: Thub-pa Drug)
six crowns of wisdom (see: rGyan drug)
six insights (see: darshana)
six-pointed star (see: shatkona)
Sixteen Arhats 23, 108, 122, 142, 210, 321, 342
Sixteen kalás of Chandra 23, 261, 313, 321, 342
skandhas (Ind.: *skandhas*) ([pancha]-skandhas; see also: rupa, vidana, sanini, sanskara, vidyana) 21, 85, 126, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 277, 294, 298, 324, 341
sKu-bZhi (four bodies) 20, 56, 106, 121, 148, 153, 166, 190, 203, 210, 220, 232, 236, 240, 250, 260, 269, 280, 298, 312, 316, 320, 328, 332
sKyes-bu-chen-pohi mTshan gSum-Cu-rTsa-gNyis 25, 108, 210, 244, 251
smell (see: gandha)
smritya-karshini (Ind.: *smṛtyā-karṣiṇī*) 23
socle 52, 54, 70, 76
Soi Dok Mak 300
solasa-nana (Ind.: *soḷasa-ñāṇa*) (ten insights) 22, 23, 74, 108, 122, 142, 210, 228, 250, 261, 299, 308, 312, 313, 321, 342
Soma (Ind.: *Sōma*) (Moon; see: Chandra)
soma (Ind.: *sōma*) (nectar) 21, 74, 80, 124, 143, 183, 204, 212, 237, 256, 302, 325, 346
Somanatha (Ind.: *Sōmanatha*) 118, 123
Somanathapura (Ind.: *Sōmanatha-pura*) 118
Somnathpur (Ind.: *Sōmnathpur*) 118
sound (see: shabda)
South Indian 31
Southeast Asia 7, 9, 10, 15, 31, 35, 67, 68, 130, 223, 352
Spain 375
sparsha (Ind.: *sparśā*) (touch; see: tanmatras, pancha-tanmatras) 21
sparsha-karshini (Ind.: *sparśā-karṣiṇī*) 23
sPyan-ras-gzigs Phyag-sTong sPyan-sTong 23, 29, 50, 74
square 6, 7
Sri Lanka(n) 9, 17, 67-127, 224, 242, 278, 289, 290, 292, 296, 304, 322, 326, 330, 344, 373, 374, 376, 378
Sri Vijaya (Ind.: *Śrī Vijaya*) 129, 290, 362
St. Louis 8
St. Sernin 3
Sthanaka (Ind.: *Sthānaka*) 11
Sthandila Mandala (Ind.: *Sthaṇḍila Maṇḍala*) (see also: mandala) 26, 38, 124, 146, 292, 296, 346
Sthaniya Mandala (Ind.: *Sthānīya Maṇḍala*) (see also: mandala) 27, 296
sthapati (Ind.: *sthapati*) 4, 11, 12, 14, 19, 373
sTobs-bCu (Ten Powers of Buddha; see: dashabhala)
Straits of Malacca 362, 368, 370
stupa(s) (chaitya, mChod-rten) 6, 8, 10, 22, 26, 33, 34, 36, 42, 46, 48, 52, 54, 56, 68, 70, 72, 75, 78, 90, 93, 98, 106, 108, 109, 112, 132, 134, 136, 138, 154, 156, 194, 204, 210, 220, 232, 237, 242, 308, 321, 234, 237, 238, 240, 246, 248, 251, 254, 260, 265, 274, 276, 278, 281, 282, 290, 295, 299, 309, 313, 374, 377
Stupa I (Sanchi) 8, 33, 34, 67, 70-71, 76, 172, 373, 374
stupika(s) (Ind.: *stūpikā*) 277, 278, 280, 292
Subrahmanya Temple (Ind.: *Subrahmaṇya*) 6, 67, 98-101, 102, 374
subtle energy spheres (see: chakra(s), hKhol-lo)
Sugriva (Ind.: *Sugrīva*) 42, 44
sukanasi (Ind.: *śukanāsī*) 62, 192
sukha (Ind.: *sukha*) see also: eight funda-mental urges) 22, 42, 112, 154
Sukhodhaya 192
Sukhothai 9, 169, 170, 192, 290, 304, 310, 313, 314, 326, 377, 378
sukra (Ind.: *sukra*) (see also: sapta-dhatu) 21
Sultanate of Malacca 9, 362
Sultanate(s) 362, 366
Sultanates of Malaysia 9
Sumatera 129, 170, 223, 224, 368
Sumeru (Ind.: *Sumeru*) 31
Sumirni Mala (Ind.: *Sumirnī Mālā*) 24, 159
Sun (see: Ravi or Surya
Sun-Moon 56
Supermundane States (see: lokuttara-dhamma)
Suphannaphum Dynasty 310
Supratikanta Mandala (Ind.: *Supratīkānta Maṇḍala*) (see also: mandala) 28
Surya (Ind.: *Sūrya*) (Sun, Ravi) 16, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 36, 42, 44, 74, 80, 81, 85, 88, 93, 96, 100, 101, 104, 117, 121, 122, 123, 124, 142, 143, 179, 183, 184, 190, 191, 198, 204, 205, 206, 211, 212, 221, 228, 237, 241, 244, 250, 256, 257, 260, 261, 269, 294, 299, 302, 303, 308, 313, 321, 325, 328, 336, 342, 346
Surya Temple 118
Suryavarman I 186
Suryavarman II 206, 213
Suryavishalaka Mandala (Ind.: *Sūryaviśālaka Maṇḍala*) (see also: mandala) 28
Susamhita Mandala (Ind.: *Susaṃhita Maṇḍala*) (see also: mandala) 28
sushumna-nadi (Ind.: *suṣumṇā-nāḍī*) (see also: chaturdasha nadis) 23
Svadhishthana (Ind.: *Svādhiṣṭhāna*) 21, 112
Svadhishthana Chakra (Ind.: *Svādhiṣṭhāna Cakra*) (see also:

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

chakra) 21, 112, 175, 250, 269, 320, 328
Svarga Brahma Temple (Ind.: *Svarga Brahmā*) 188
swastika 70
Swayambhunath (Ind.: *Swayambhunath*) (Mahachaitya) 16, 32, 34, 54, 274

T

Ta Keo 144, 169, 175, 186-191, 192, 196, 200, 206, 208, 246, 295, 374, 376, 377
Ta Prohm 214
Tabriz 3
tala (Ind.: *tala*) 11
tamas (Ind.: *tamas*) (see also: octave of Prakriti, eight funda-mental urges) 22, 42, 112
Tamils 30, 361
tamoguna (Ind.: *tamoguṇa*) (see: guma) 20, 162, 226
tanha (Ind.: *taṇhā*) 27, 184
Tanjore 7, 62, 104
tanmatras (Ind.: *tanmātras*) ([five] subtle ele-ments, pancha-tanmatras; see: shabda, sparsha, rupa, rasa, gandha) 21, 126, 166, 179, 183, 190, 203, 211, 220, 240, 250, 264, 276, 294, 298, 324, 341
Tantra (Ind.: *Tantra*) (Tantric) 21, 30, 48, 85, 126, 130, 142, 162, 163, 164, 160, 166, 179, 183, 190, 203, 211, 220, 238, 240, 250, 264, 277, 294, 298, 324, 341
Tara(s) (Ind.: *Tārā*) 16, 24, 30, 117, 156, 179, 328
tathagata balani (Ind.: *tathāgata balāni*) 54
tattva(s) (Ind.: *tattva*) 24, 25, 221, 309, 313, 328
Tau cross 284
tehravim (Ind.: *tehravim*) 23, 122
Tejapala Temple (Ind.: *Tejapāla*) 118
tejas (Ind.: *tejas*) (fire; see also: pancha-tanmatras, pancha-bhutas, octave of Prakriti) 20, 21, 22, 42, 72, 80, 96, 100, 102, 112, 126, 158, 163, 166, 174, 188, 194, 203, 226, 255, 264, 277, 278, 286, 294, 326, 341
Temple of Heaven 8, 376
Temple of Maha-Vihara Dharmapala (Ind.: *Mahā-Vihara Dharmapāla*) 188
Temple of Shiva and Minakshi (Ind.: *Śiva* and *Minākṣī*) 7
Temple of the Thousand Buddhas 144, 149
ten accomplishments (see: dasha-siddhis)
ten avatars of the Lord Vishnu (see: dashavatara)
Ten Directions (see: Phyogs-bCu)
ten great Vidyas (see: dasha-Mahavidyas)
ten insights (see: solasa-nana)
ten powers of Buddha (see: dashabhala)
ten powers of the vital fire (see: dasha-vahini-kala)
ten sense powers (see: indriyas)
ten world gods 22, 74, 85, 108, 228, 244, 299, 308, 313, 317
tenfold knowledge (see: dasha-nanam)
Terengganu 8, 361, 366
Thai 31, 55, 112, 224, 230, 290, 310, 340, 374, 375, 378
Thailand 9, 14, 16, 33, 34, 52, 67, 69, 104, 105, 129, 169, 192, 195, 290, 322, 338
Thaipusam (Ind.: *Thaipusam*) 31
Thang-ka 35
thangka(s) 38, 48, 76, 155
That-Byin-Nyu 18, 68, 223, 237, 251, 252, 254, 257, 258, 260, 262, 265, 269, 374, 376, 377
Thaton 224
The Absolute 6, 7, 8, 12, 13, 19, 20, 33, 34, 38, 39, 40, 44, 58, 117, 153, 210, 373, 374, 376, 378
The Absolute One (see: The Absolute)
The Almighty (see: The Absolute)
The Deity (see: The Absolute)
The Divine (see: The Absolute)
The Eternal (see: The Absolute)
The Infinite One (see: The Absolute)
The Primordial One (see: The Absolute)
The Self-Born (see: The Absolute)
The Ultimate (see: The Absolute)
The Ultimate Principle (see: The Absolute)
The Universal Spirit (see: The Absolute)
Theravada (Ind.: *Theravāda*) (Theravadist) 9, 10, 15, 16, 17, 18, 20, 25, 31, 50, 52, 54, 56, 68, 69, 72, 78, 80, 81, 85, 110, 156, 158, 162, 174, 188, 192, 194, 195, 203, 218, 224, 226, 238, 242, 245, 249, 252, 255, 264, 278, 284, 286, 289, 294, 316, 326, 332, 341, 347, 378
Thiri-Ya-Pyit-Saya Kubyauk 270
thirteen discs of the kota (see: kota)
thirteen means of removing defilements (see; dhutanga)
thirteen mystic powers of the Buddha (see: dasha-tathagata-balani [plus avenikasmrityupasthana])
thirty-five Buddhas of Confession 25, 183
thirty-two 1uspicious marks of the Great Being 25, 108, 210, 244
Thiruvanchikula 67, 102, 110
Thon Buri 338, 376
thousand Buddhas 29, 50
thousand-armed thousand-eyed Avalokiteshvara 23, 29, 50, 74
three Bodhisattvas of Wisdom, Power and Mercy 20, 72,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

80, 85, 158, 162, 174, 188, 194, 203, 218, 226, 255, 278, 286, 294, 316, 326, 332, 344, 352
three cities (see: tripura)
three forces (see: [tri]guna)
three patrons (see: Rigs-gSum mGon-po)
three principles of life 154, 218, 316, 332
three refuges (see also: Buddha, dharma, sangha) 20, 72, 80, 85, 158, 162, 174, 188, 194, 203, 218, 226, 255, 278, 286, 294, 316, 326, 332, 344, 352
three regions (see: triloka)
three times (see: kála)
Three Worlds (see: triloka)
Thub-pa Drug (six Buddhas) 21, 112, 149, 174, 250, 269, 320, 328
Thub-pa-drug Mandala (see also: mandala) 56
Thuparama Dagoba (Ind.: *Thūpārāma Dāgoba*) 52, 67, 72-75, 76, 322, 373, 374, 377, 378
Tibet 17, 32, 52, 56
tiloka (Ind.: *tiloka*) 322
Tipitaka (Ind.: *Tipiṭaka*) (see: Tripitaka)
Tirupati Hills 32
titans (see: hGro-ba Rigs Drug)
tithi(s) (Ind.: *tithi*) 13, 23, 81
Tivanka Pilimage (Ind.: *Tivanka Pilimage*) (Polonnaruwa) 7, 67, 105, 110-113, 226, 272, 322, 374, 376
Tomb of Humayun 375
Tomb of Tutankhamen 169
topaz (see: navaratna)
torana(s) (Ind.: *toraṇa*) 70, 76
touch (see: sparsha)
Toulouse 114, 379
Tower of Babel 32, 376
Trafalgar Square 8
Trailokyamohana (Ind.: *Trailōkya-mōhana*) 22, 74, 228, 299, 308
[tri]guna (Ind.: *triguṇa*) (see: guma)
Trikaya (Ind.: *Trikāya*) 20, 72, 80, 85, 158, 162, 174, 188, 194, 203, 226, 255, 264, 278, 286, 294, 326, 341
triloka (Ind.: *triloka*) (three regions, three worlds) 20, 54, 72, 80, 85, 96, 100, 102, 126, 136, 154, 158, 162, 174, 184, 188, 194, 203, 218, 226, 249, 255, 264, 278, 286, 292, 316, 332, 326, 341, 344, 352
trimala (Ind.: *trimālā*) 52
trimurti (Ind.: *trimūrti*) (see: Brahmá, Vishnu, Shiva; or Sarasvati, Lak-shmi, Parvati; or Maha-Sarasvati, Maha-Lakshmi, Maha-Kali) 20, 152, 154, 155, 208
trinity (see: trimurti)
Tripitaka (Ind.: *Tripiṭaka*) (triple basket, Tipitaka) 20, 54, 72, 80, 85, 136, 158, 162, 174, 188, 194, 203, 226, 249, 255, 264, 278, 286, 294, 316, 326, 332, 341, 344, 352
tripura (Ind.: *tripurā*) (three cities) 20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 264, 278, 286, 292, 326, 341
triratha (Ind.: *triratha*) 6, 68, 132, 150, 176, 238, 276, 330, 347, 354, 373
trishula (Ind.: *triśūla*) 20, 72, 80, 96, 100, 102, 126, 136, 154, 156, 162, 174, 188, 194
trivarga (Ind.: *trivarga*) (objects of human pursuit; see also: dharma, artha, kama) 20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 255, 264, 278, 286, 292, 326, 341
triyuta mandala (Ind.: *triyuta maṇḍala*) (see also: mandala) 27
Tropic of Cancer 184
Tshe-ring mChed-lNga (five Sisters of Long Life) 21, 85, 106, 142, 166, 190, 203, 211, 220, 241, 242, 250, 264, 277, 294, 298, 324, 341
tumuli 70
tumulus 70
tunmal pesava (Ind.: *tunmāl pesāva*) 52
Tutankhamen 169
twelve deities of the cycle of the twelve years (see: Lo-hKhor bCu-gNyis-kyi Lha)
twelve dependent originations (see:paticcasamuppada)
twelve duties of the Chakravartin (see: Cakkavatti-vatta)
twelve signs of the Zodiac (see: Zodiac)
twelve volitional actions (see: kamma)twelve year cycle, twelve deities of the (see: Lo-hKhor bCu-gNyis-kyi Lha)
two actions (see: kamma)
two types of gift Giving (see: dana)

U

U-Thong 300
ubhayachandita mandala (Ind.: *ubhayacaṇḍita maṇḍala*) (see also: mandala) 27
ubosot 300, 318, 330, 334, 338, 340, 341, 342
Udayadityavarman II 200, 205
Uditi (Ind.:) 44
ugrapitha mandala (Ind.: *ugrapīṭha maṇḍala*) (see also: mandala) 25, 146, 152
Uma (Ind.: *Umā*) 96
Unites States 7
Universal Monarch (see also: Chakravartin) 224
upapitha mandala (Ind.: *upapīṭha maṇḍala*) (see also: mandala) 24, 124, 126, 140, 142, 164, 166, 217, 328, 366, 368, 370
ushna (Ind.: *uṣṇa*) (see also: eight funda-mental urges) 22, 42, 112, 154

V

vahana (Ind.: *vāhana*) 152, 154
Vairochana (Ind.: *Vairocana*) 50, 138, 274
Vaishnava (Ind.: *Vaiṣṇava*) 15, 42, 118, 123, 206, 216
Vaishya(s) (Ind.: *Vaiśya*) 13, 44

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

vajra(s) (Ind.: *vajra*) 48, 50
Vajradhara (Ind.:) 274
Vajradhatu Mandala (Ind.: *Vajrādhātu Maṇḍala*) (see also: mandala) 35, 39, 50, 56, 138, 149, 261
Vajrayana (Ind.: *Vajrayāna*) 3, 6, 15, 16, 17, 31, 39, 48, 50, 56, 76, 160, 274, 376
Vajrayana Buddhism 3
Vajrayana Mandala (Ind.: *Vajrayāna Maṇḍala*) (see also: mandala) 35, 48, 216
vamachara (Ind.: *vāmācāra*) 30, 163, 167
Vamana-Trivikrama (Ind.: *Vāmana-Trivikramā*) (see also: avatar, Vishnu)20, 72, 80, 96, 100, 102, 126, 158, 162, 174, 188, 194, 203, 226, 249, 255, 264, 278, 286, 292, 316, 326, 332, 336, 341, 344, 352
vamanachara (Ind.: *vāmānacāra*) 85, 126, 142, 166, 179, 183, 190, 203, 211, 220, 240, 250, 277, 264, 294, 298, 324, 341
vamanachara Tantra (Ind.: *vāmānacāra Tantra*) (tantra of the left hand: see also: pancha-makara) 21
vara (Ind.: *vara*) 13
varada mudra (Ind.: *varada mudrā*) 138, 248
Varahavatara (Ind.: *Varāhavatāra*) 120
Varahi Temple (Ind.: *Varāhī*) 352
varana-nadi (Ind.: *varaṇā-nāḍī*) (see also: chatur-dasha nadis) 23
vartamana-kala (Ind.: *vartamana-kāla*) (present; see also: kála) 20, 162, 226
Varuna (Ind.: *Varuṇa*) 40, 46
vashitva (Ind.: *vaśitva*) (see: dasha-siddhis) 22, 228
Vastu-purusha (Ind.: *Vāstu-puruṣa*) 38, 40, 374
Vastu-purusha Mandala (Ind.: *Vāstu-puruṣa Maṇḍala*) (see also: mandala) 12, 34, 35, 38, 40, 42, 44, 46, 50, 377
Vasus (Ind.: *Vasus*) 25, 109, 184, 205, 221
Vatadage (Ind.: *Vatadage*) (Polonnaruwa) 67, 68, 72, 75, 76, 106-109, 112, 377
Vattagamani (Ind.: *Vattagamani*) 344
Vayu (Ind.: *Vāyu*) 40, 42, 44, 46
vayu (Ind.: *vayu*) (ether; see also: pancha-tanmatras, panchabhutas, octave of Prakriti) 20, 21, 22, 42, 112, 166, 277, 302, 320, 322
vedana (Ind.: *vedana*) 27, 184
Veda(s) (Ind.: *Veda*) (Vedic) 13, 16, 20, 21, 25, 42, 54, 74, 78, 80, 86, 88, 90, 92, 100, 101, 109, 114, 121, 124, 142, 153, 166, 183, 184, 190, 203, 204, 205, 212, 221, 232, 236, 237, 249, 256, 260, 268, 280, 298, 302, 312, 320, 324, 328, 344, 373
vedika (Ind.: *vedikā*) 34, 70
Venkateshvara (Ind.: *Veṅkaṭeśvara*) 32
Venus (see : Shukra)
vesara (Ind.: *vesara*) 62
vidana (Ind.: *vidanā*) (see: skandha) 21, 277
vidyana (Ind.: *vidyāna*) (see: skandha) 21, 277
vidya(s) (Ind.: *vidyā*) 24, 26, 81, 96, 123, 190, 309
vihara (Ind.: *vihara*) (viharn[s]) 31, 82, 300, 304, 306, 310, 314, 318, 320, 326, 330, 334, 340
viharn khots 338
viharn noi 338
viharn thit 338
viharn thits 338, 340
Vijayalaya-colisvara Temple (Ind.: *Vijayālaya-colisvara*) 373, 374
vimana (Ind.: *vimāna*) 62, 114, 117, 378
vinnana-kiccha (Ind.: *viññāṇa-kicca*) (fourteen psychic functions) 23, 303, 336, 342
viprabhaktika mandala (Ind.: *viprabhaktika maṇḍala*) (see also: mandala) 29
vipragarbha mandala (Ind.: *vipragarbha maṇḍala*) (see also: mandala) 28
vipratikanta mandala (Ind.: *vipratikānta maṇḍala*) (see also: mandala) 28
vipulabhoga mandala (Ind.: *vipulabhoga maṇḍala*) (see also: mandala) 28
Virgin Mary 33
virtue (see: dharma; see also: trivarga, Pradharthas)
vishala mandala (Ind.: *viśāla maṇḍala*) (see also: mandala) 28
Vishnu (Ind.: *Viṣṇu*) (see also: avatar, Vamana-Trivikrama)19, 20, 21, 22, 29, 42, 50, 72, 74, 80, 88, 92, 96, 100, 102, 108, 112, 118, 120, 121, 126, 136, 150, 153, 158, 162, 166, 174, 188, 194, 202, 203, 208, 213, 218, 226, 228, 232, 236, 244, 249, 250, 255, 260, 262, 264, 268, 269, 277, 278, 280, 286, 292, 298, 308, 316, 317, 320, 326, 328, 332, 336, 341, 344, 352
Vishnu-Lakshmi (Ind.: *Viṣṇu-Lakṣmī*) 376
Vishnu-Shayana (Ind.: *Viṣṇu-Śayana*) 120
Vishnusahasranama (Ind.: *Viṣṇu-sahasranāma*) 29, 50
Vishnuvardhana (Ind.: *Viṣṇu-vardhana*) (King) 160
Vishuddha (Ind.: *Viśuddha*) 21, 112, 328
Vishudha Chakra (Ind.: *Viśudha Cakra*) (see also: chakra) 23, 88, 101, 108, 122, 142, 210, 250, 261, 321, 342
vishva-vajra(s) (Ind.: *viśva-vajra*) 48, 50
vishvalaksha mandala (Ind.: *viśvālākṣa maṇḍala*) (see also: mandala) 28
vishvesha mandala (Ind.: *viśveśa maṇḍala*) (see also: mandala) 28, 146
vishveshasara mandala (Ind.: *viśveśasāra maṇḍala*) (see also: mandala) 29
vishvodara-nadi (Ind.: *viśvodarā-nāḍī*) (see also: chaturdasha

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

nadis) 23
vitarka mudra (Ind.: *vitarka mudrā*) 138
Vitatha (Ind.: *Vitatha*) 42, 44
Vivasvan (Ind.: *Vivasvan*) 42, 44
Vivasvat (Ind.: *Vivasvat*) 44
vratabhoga mandala (Ind.: *vratabhoga maṇḍala*) (see also: mandala) 28
vyaya (Ind.: *vyaya*) 12
vymon (Ind.: *vymon*) (ether) 19, 21, 22, 42, 112, 166

W

Wan Atthami 31
Washington, D.C. 8, 32
wat 17, 31, 300, 304, 310, 313, 317, 318, 320, 326, 334, 338
Wat Arun 338
Wat Arun Rajtharam 376
Wat Baset 192
Wat Benchamabophit 290
Wat Bodharam 338
Wat Chai Watthanaram 8, 289, 334, 377
Wat Chedi Chet Yot 112, 230, 289, 322, 325, 377
Wat Chetuphon 290
Wat Choeng Tha 289, 300
Wat Ek 192
Wat Kaew 6, 374
Wat Khuha Sawan 338
Wat Mahabodharama 322
Wat Mahathat 226, 290, 304, 313, 326, 378
Wat Phanan Cherng 300
Wat Phasicharoen 338
Wat Pho 338
Wat Pho Chetuphon 338
Wat Phra Chao Phanan Choeng 192, 300, 303, 374, 377
Wat Phra Chetuphon 338, 377
Wat Phra Chetuphon Wimonmangkhalaram 338, 374
Wat Phra Chetupon 289
Wat Phra Kaew 290, 309, 326, 338
Wat Phra Phai Luang 314, 377
Wat Phra Ram 289, 290, 300, 314, 318, 322, 378
Wat Phra Si Rattana Mahathat 289, 290, 300, 310, 313, 314, 318, 322, 376, 377
Wat Phra Si Sanphet 289, 290, 300, 313, 314, 317, 326
Wat Phrathat Doi Suthep 290
Wat Phu Khao Thong 333
Wat Potaram 338
Wat Rajabopitr 290
Wat Ratchaburana 289, 290, 300, 310, 318, 322
Wat Ratchanada 344
Wat Ratchanatdaram 27, 344
Wat Sraket 290
Wat Suan Luang Sop Sawan 376
Wat Suthat 290
Wat Theptidaram 289
wiharn 31
wine (see: madya)

Y

yab-yum 3, 32, 376
yajnamana (Ind.: yajñamana) 14
Yakshasa (Ind.: *Yakśasa*) 16
Yama (Ind.: *Yama*) 40, 42, 44, 46
yantra(s) (Ind.: *yantra*) 21, 25, 36
yasho-vati-nadi (Ind.: *yaśo-vatī-nāḍī*) (see also: chaturdasha nadis) 23
Yashovarman 180
Yasodharapura 180
Ye-shes lNga (fivefold transcendental wisdom) 21, 56, 85, 106, 142, 166, 183, 190, 203, 211, 220, 241, 242, 250, 264, 277, 294, 298, 324, 341
yin-yang 32, 376
yoganala (Ind.: *yoganāla*) 14
Yogini(s) (Ind.: *Yoginī*) 26, 123, 190, 194, 221, 228, 233, 308
yoni (Ind.: *yoni*) 13, 376
yoni-lingam (Ind.: *yoni-liṅgam*) 32, 376
yuganaddha (Ind.: *yuganaddha*) 3

Z

zeidi(s) 33, 52, 238, 241, 276, 278
Zodiac 13, 23, 85, 88, 93, 96, 100, 104, 121, 179, 204, 213, 237, 241, 256, 260, 269, 280, 294, 317

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Acknowledgments

I wish first to acknowledge the various sources used and consulted in the preparation of the computer generated plates and figures included in this work. The program used is Adobe PageMaker 6.0. The source of each image (Plate) is noted in the sections of the various monuments within this study and in Appendix A. Nonetheless, I considered it important to acknowledge my debt to them and their works again. They, and the works are: Clarence Aasen, *Architecture of Siam;* Anagarika Govinda (Lama), *Psychocosmic Symbolism of the Buddhist Stupa;* Jeannine Auboyer, et al, *Oriental Art: A Handbook of Styles and Forms;* Stephen Batchelor, *The Tibet Guide;* J. Boisselier, Le Cambodge, *Manuel d'archéologie d'Extreme-Orient, Asie du Sud est;* Mario Bussagli, *Oriental Architecture I: India, Indonesia, Indochina;* Bruno Dagens (trans.), *Mayamatam: Treatise of Housing, Architecture and Iconography;* Jacques Dumarçay, & Michael Smithies, *Cultural Sites of Burma, Thailand, and Cambodia;* James Fergusson, et al. *History of Indian and Eastern Architecture;* B. P. Groslier, *The Art of Indochina: Including Thailand, Vietnam, Laos and Cambodia.;* B. P. Groslier and J. Arthaud, *The Arts and Civilization of Angkor;* David and Janice Jackson, *Tibetan Thangka Painting: Methods & Materials;* Krishna Deva, *Temples of India;* John D. La Plante, *Asian Art;* Lim Jee Yuan. *The Malay House: Rediscovering Malaysia's Indigenous Shelter System;* K. I. Matics, *A History of Wat Phra Chetuphon and Its Buddha Images;* John Miksic, Borobudur: *Golden Tales of the Buddhas;* Blanche Christine Olschak, *Mystic Art of Ancient Tibet;* Philip Rawson, *The Art of Southeast Asia;* Henri Stierlin, *Architecture of the World: India;* Paul Strachan, *Imperial Pagan: Art and Architecture of Burma;* Carol Stratton and Miriam McNair Scott, *The Art of Sukhothai: Thailand's Golden Age;* Steve Van Beek and Luca Invernizzi Tettoni, *The Arts of Thailand;* and Kapila Vatsyayan, *The Square and the Circle of the Indian Arts.*

There are numerous others who I wish to acknowledge: K. Srinivasan, First Secretary, and Peter Loo, Education Officer, High Commission of India, Kuala Lumpur, for their assistance and time; Vipula Wanigasekera, Counsellor, High Commission of Sri Lanka, Kuala Lumpur, for his assistance and information proffered; Krishna Deva, Department of Archeology, New Delhi; Dr. U. S. Moorti and Rameshwar Sharma, American Institute of Indian Studies, Gurgaon, for their unstinting assistance; Professor Madya H. M. Bukhari Lubis, Universiti Kebangsaan Malaysia, Bangi, for his information regarding Islamic practices; numerous Brahmin Priests from Kuala Lumpur, New Delhi and Hoshiapur, for their information regarding numerological and theological information; Suradej Sutthi (formerly Phra Suradej Sutthi), and Chutidej Chayuti, Bangkok, for their translations and unflagging assistance; Susheel Mittal, New Delhi, for supplying me with various information and making much needed contacts; and Dr. Hildegard Pang, Professor, Dr. Barbara Kane-Nickens, Professor Emeritus, And Whitney Engeran, Professor, all of Indiana State University, for their directions, encouragement and ideas.

Finally, I dedicate this work to my mother, Gwendolyn Margaret (nee) Covell Bunce, and to the nameless artists/architects/builders who produced the numberless Buddhist and Hindu monuments of south and southeast Asia.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Addendum

The enigma of *That Luang* Vientaine, Lao

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

That Luang

Vientiane Lao, a. 1566 CE

(VT)

One frequently encounters things for which they are completely unprepared. Situations or objects which are not necessarily beyond one's ken, but which present perplexities which are difficult to fathom. *That Luang*, of Vientiane, Lao, is one of those things for this author.

The *That Luang* was supposedly constructed on a sight that had long been held sacred. It sits on a low hill some three kilometers from the Mekong River. In its present form, it was constructed by King Sai Setthathirat, of Lan Xang (Lao) (1548-1571), who had moved the capitol from Muang Sawa (Luang Phabang or Luang Phrabang) to Wieng Chan (Vientiane). This was his first major act of merit in his new capitol by this king.

The *that*--a Lao word from the Pali *dhatu* or *dhatucetiya* or "monument containing a relic"--as Lao, has suffered the ravages of time and frequent conquests. In 1574 the Burmans invaded and plundered the city and defaced the *that*. 1826 saw the first sack of Vientiane by the Thai who left *That Luang* relatively intact at that time. They were not as even handed in 1828 when the monument was damaged. A bandit horde from southern China was responsible for breaking into the monument and many of the *palami* were pulled down. This was in 1873. Lightening in 1896 completed what the bandits were unable or unwilling to do, nearly destroying the whole. The French undertook a thoroughly unsuccessful and rather heavy handed restoration in 1901. 1929-1935 saw the 1901 debacle rectified, somewhat, presenting the *That Luang* in its present configuration.

The problem, as this author sees it, with the *That Luang* is in the number of *palami* (*stupika*) which surrounds the *tumulus* (*anda*). There are thirty! Across the east and west faces one counts nine on each side, while the north and south faces there are eight *palami* per side (See: **Plate 174**). Nine *stupika* or *palami* per face would amount to thirty-two, while eight would add up to twenty-eight (See: **Figure 218**).

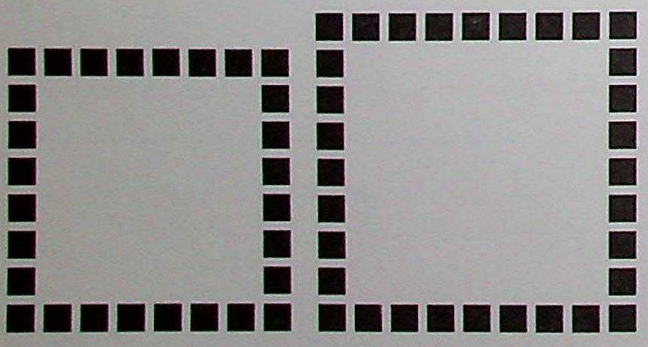


Figure 218: *That Luang:* twenty-eight *stupika* (left) and thirty-two *stupika* (right)

The appearance of thirty *stupika* in this configuration cannot be seen in any other major Buddhist or Hindu shrine. Normally, the spacing of subsidiary *stupas* is even as is seen in *Chandi Lumbung* (See: **Plate 32**), *Loro Jonggrang* (See: **Plate 35**), *Bakheng* (See: **Plate 41**), *That-Byin-Nyu* (See: **Plate 58**), *Dhamma-Yazika* (See: **Plate 63**), *Wat Phra Ram* (See: **Plate 73**), *Wat Ratchaburana* (See: **Plate 74**), and *Wat Phra Si Sanphet* (See: **Plate 76**).

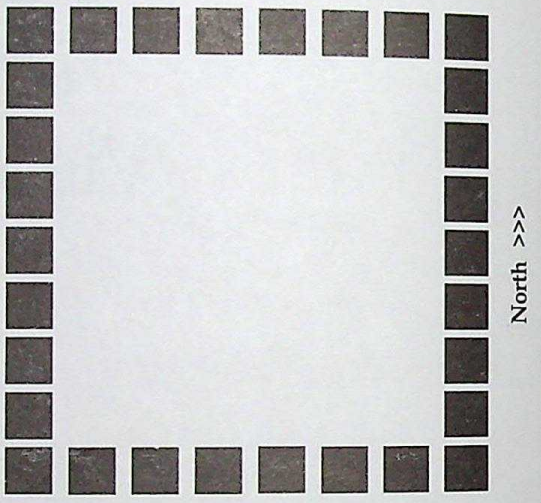


Figure 219: *That Luang:* thirty *stupika.* compressed arrangement

In *That Luang* the nine east and west *palami* are squeezed together so that they may fit within the allotted space (See: **Figure 219**). A perfectly acceptable, and oft used solution would to have been to plan for thirty-two and merely remove the middle two (See: **Figure 110**). This latter arrangement is not uncommon within the Buddhist and Hindu worlds, but, was, for some reason not employed at *That Luang*.

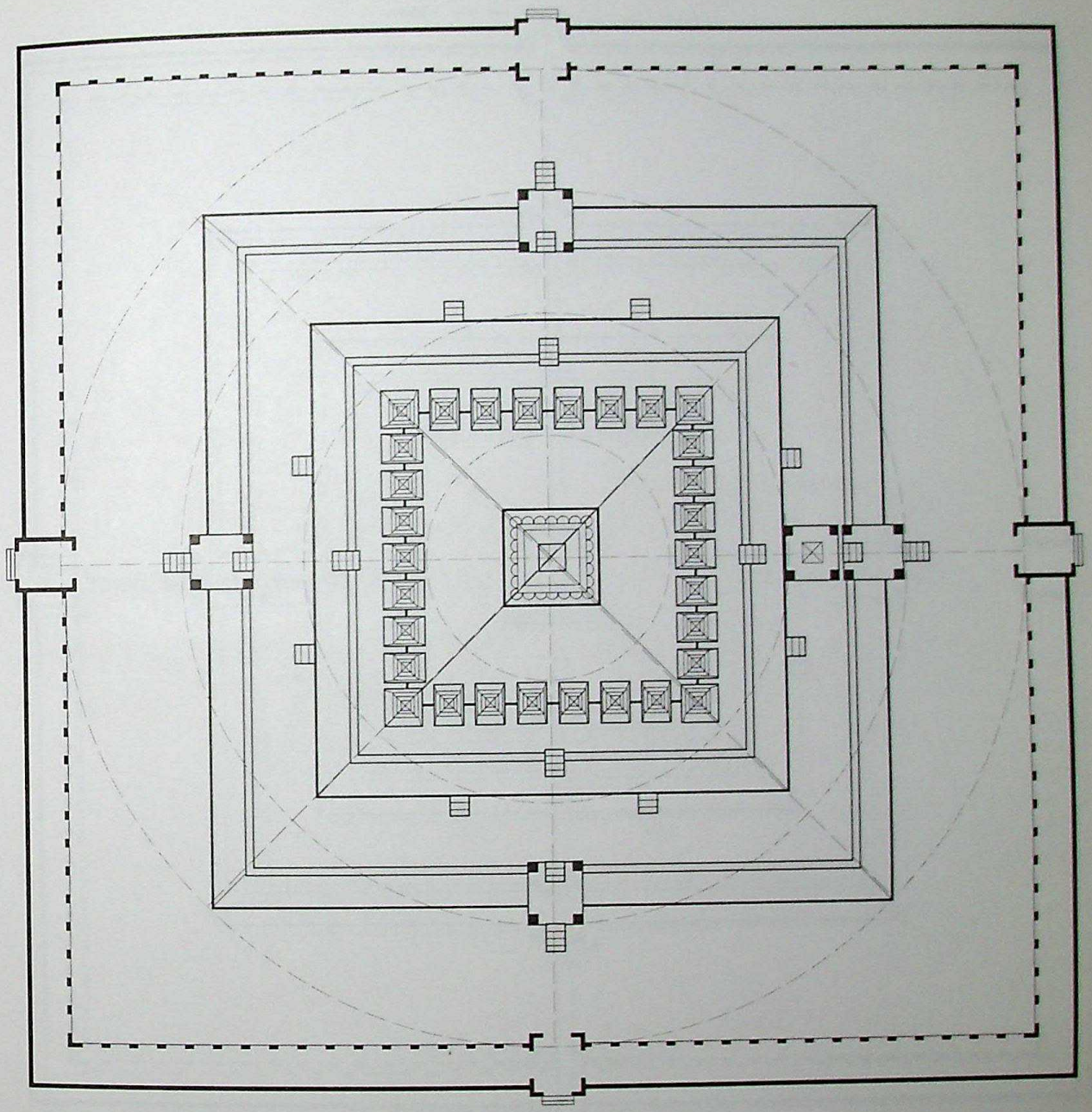
Why was this configuration employed? If, indeed, this was the original solution, then it is one of the most aberrant in the Buddhist/Hindu lexicon of temple/shrine plans.

Historical documentation is confusing. The earliest European account, which is sadly lacking any definitive delineation other than to comment on its imposing character, was written in 1641 by the Dutch merchant, Geritt van Wuysthoff. Louis Delaporte in 1867, a member of the Doudart de Lagrée and Francis Garnier exploration team, produced a rather precise drawing of *That Luang* in which this strange

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 174 -- *That Luang*



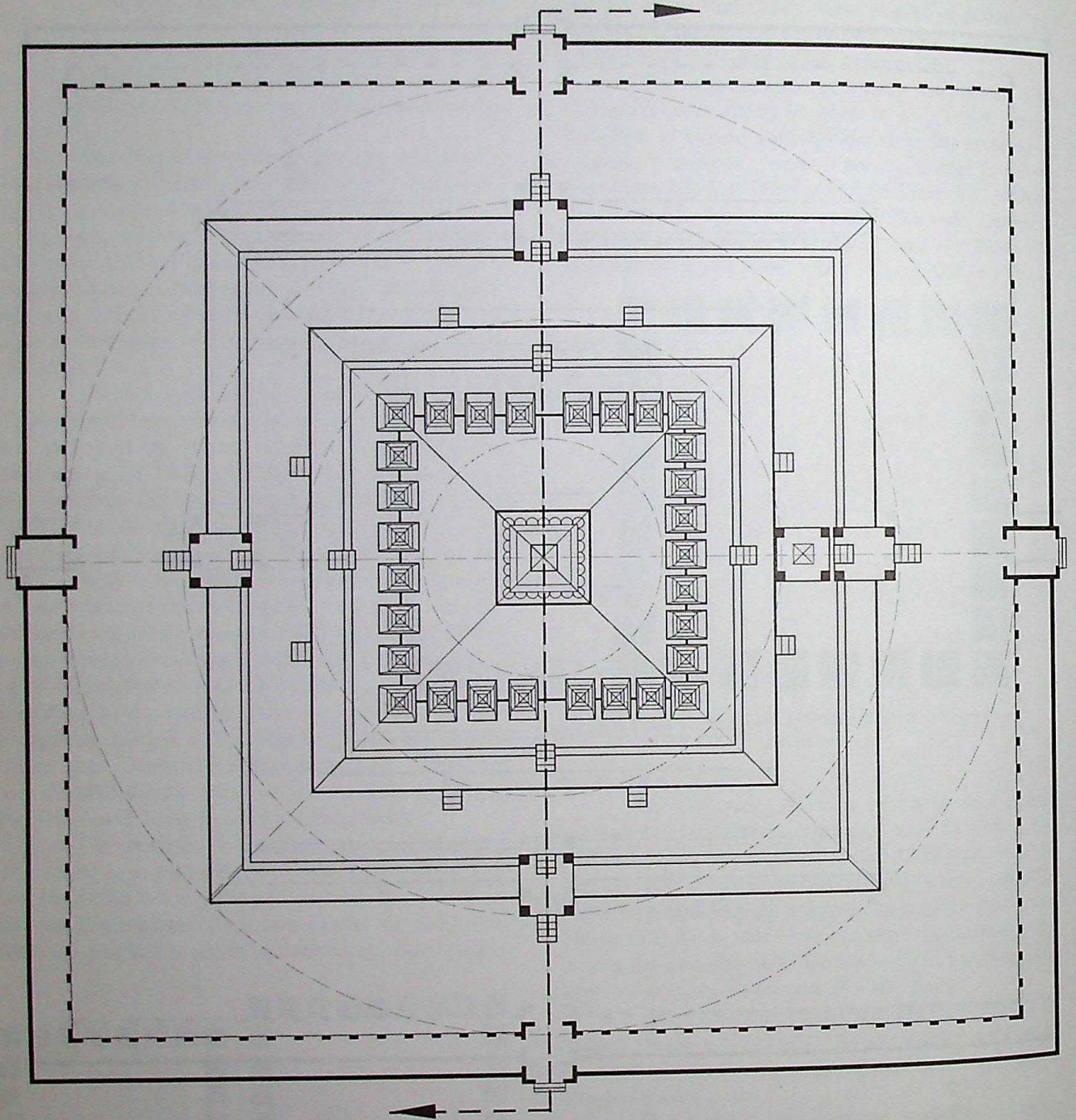
North >>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 175 -- *That Luang II*

Left half indicating 28 engaged *stupikas*
Right half indicating arrangement of 30 engaged *stupikas*



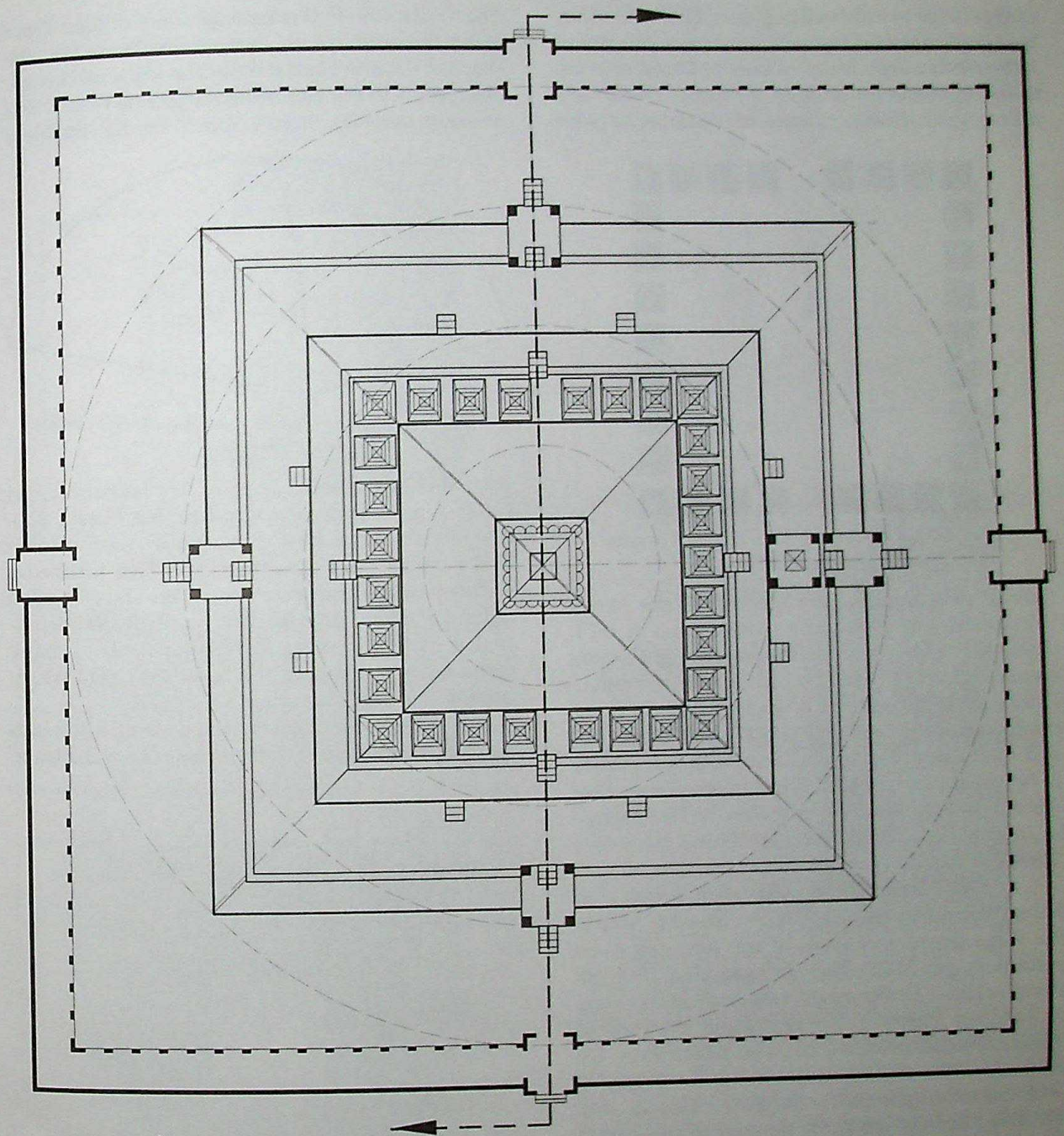
North >>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Plate 176 -- *That Luang III*

Left half indicating 28 *stupikas*
Right half indicating arrangement of 30 *stupikas*



North >>

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

configuration as indicated in **Figure 219** is to be seen. Two years after the Lagrée/Garnier expedition--i.e., 1869--another explorer, one Louis de Carné, refers to **thirty-four** bases upon which the *stupika* would have arisen. Again, Francis Garnier, of the earlier Lagrée/

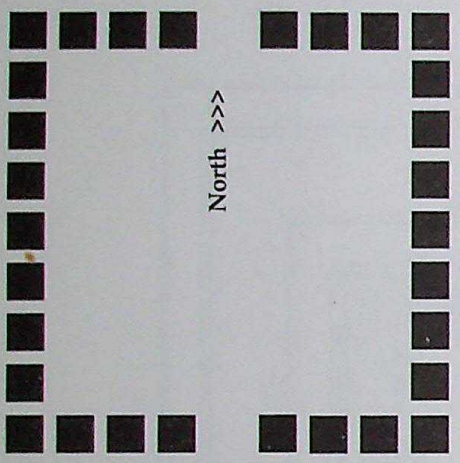


Figure 220: *That Luang:* an alternate thirty *stupika* arrangement

Garnier expedition, and a member of the newly delegated French exploration commission of 1871, describes the *that* as possessing **twenty-eight** *stupika* (*palami*) which he described as "small pyramids." Finally, the 1901 "restoration" sports the thirty in the configuration indicated in **Plate 174** and **Figure 219** and which appears to conform with the earlier Delaporte drawing of 1867. There are, therefore, three different counts regarding the *palami* of *That Luang*--i.e., twenty-eight (1871), thirty (1867) and thirty-four (1869).

The Vientiane Times publication, *Symbol of the Nation*, states that the thirty *palami* (*stupika*) refer to the three degrees of each of the ten virtues or perfections (pp. 21-22). Phra Rajawaramuni (Prayuth Payuthto) in his *Dictionary of Buddhism* (*Brief Dictionary of Buddhist Dharma*), a publication devoted to *Theravada* Buddhism (Pali), likewise, describes the ten *Páramí* (note the spelling variation). His list is identical with that included in the *Symbol of the Nation* (*loc. cit.*). He also refers to the three degrees of the *Páramí* (*palami*)--i.e., *parami* (ordinary perfection), *upaparami* (superior perfection) and *paramatthaparami* (supreme perfection). It is evident, even on a cursory basis, that the number thirty possesses some iconic importance to the *Theravada* Buddhist.

The problem regarding the numbers of subsidiary *stupikas* (*palami*) is not the only concern. The form of the *anda* is unusual if not unique. From either the north, south, east or west elevations the shape of the *anda* against the skyline as semi circular. However, it is not hemispherical as one would find in many *anda*--i.e., *Stupa I*, Sanchi or *Ruvanveliseya*

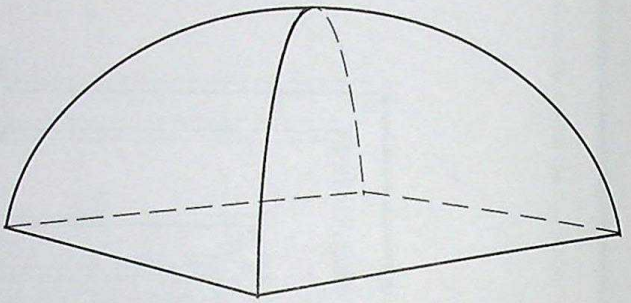


Figure 221: *That Luang:* the *anda* form, based upon a square

(var.: Ruwanweliseya) *Dagoba*, Anuradhapura, Sri Lanka--since it rises from a square (See: **Figure 221**). It would appear to be a wonderfully creative union of the square and the circle. The Thai utilized a variation of this form in their complex and elongated redented added-angled *chedis* and the rabbeted-angled *chedis*. However, there is a paucity of major monuments throughout the Buddhist world which employ this form/variation.

Even more troubling is the manner in which the cubic-formed bases of the *stupika* (*palami*) intrude

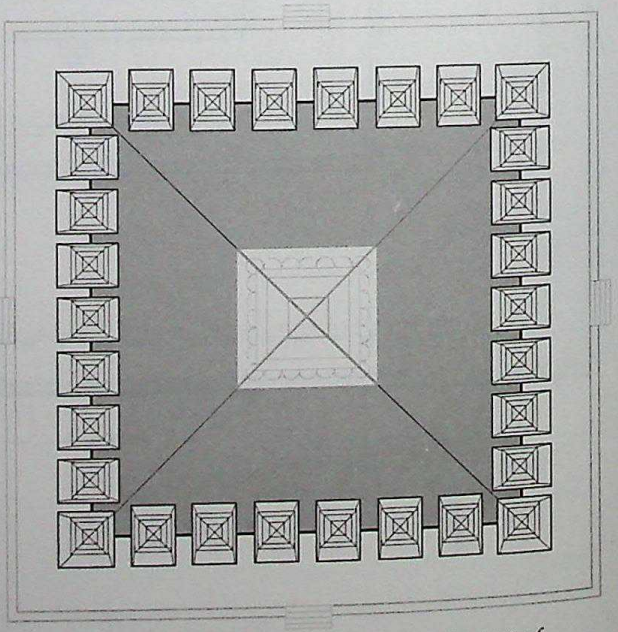


Figure 222: *That Luang:* the encrouchment of the *stupikas* into the *anda*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

into the *anda*. Not only are these "bases" absolutely unprecedented in form--i.e., totally unadorned and plinth-like, reminiscent of a foundation to be hidden below ground--they are awkward and, finally, there is no precedence for their "attachment" to the *anda* (See: **Figures 222, 223 & 224**).

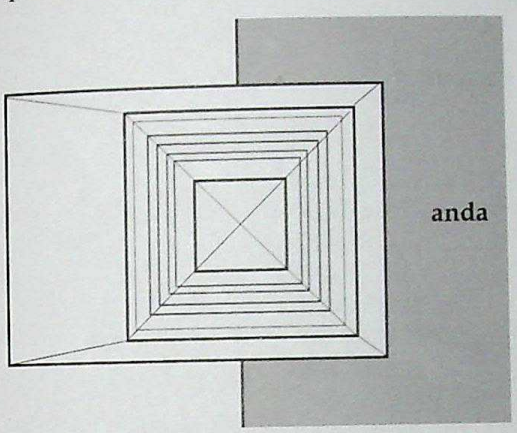


Figure 223: *That Luang:* plan detail of the encrouchment of a *stupika* into the *anda*

The *anda* is considered as the celestial sphere, complete, pure and unfettered. The implied lower half--i.e., that half which mirrors the upper, above the ground, seen half--is the earthly sphere. Further, In the Buddhist tradition, as has been mentioned, the circle represents the celestial and the square the terrestrial. Therefore, the square plan *anda*, although not unique, as with the round plan *andas* are virtually never intruded upon as is done here in the *That Luang*.

As has been utilized previously in this study, the application of a circular *Manduka Mandala* appears eminently applicable to this Buddhist structure. In the present configuration, the inner circle, the *brahmasthana*, encloses the *harmika* and *chattravali* of the soaring "spire" as well as a portion of the *anda*. Its outer border is seen to rest just inside the engaged *stupikas* (*palami*). The second ring enfolds the thirty *stupikas* (*palami*). The penultimate ring embraces the second terrace and the four prayer pavilions found at the cardinal points of the lower terrace. These prayer pavilions also serve as gateways to the first terrace. Finally, the outer ring encircles the whole and is bounded by the *phra rabiang* (cloister) (See: **Plate 174**). The same fitting conclusion is to be found if a twenty-eight or thirty *stupika* solution is employed--the latter with an intervening space on the north and south faces (See: **Plate 175**).

Finally, if the *stupikas* are moved outwards, free of the *anda*, not engaged, a similar solution is to be seen. It is to be noted that the second circle involves the *harmika* and *chattravali* of the four corner stupikas, not the whole--an acceptable arrangement (See: **Plate 176**). In the mind of this author, this would seem the most acceptable or preferred alternative.

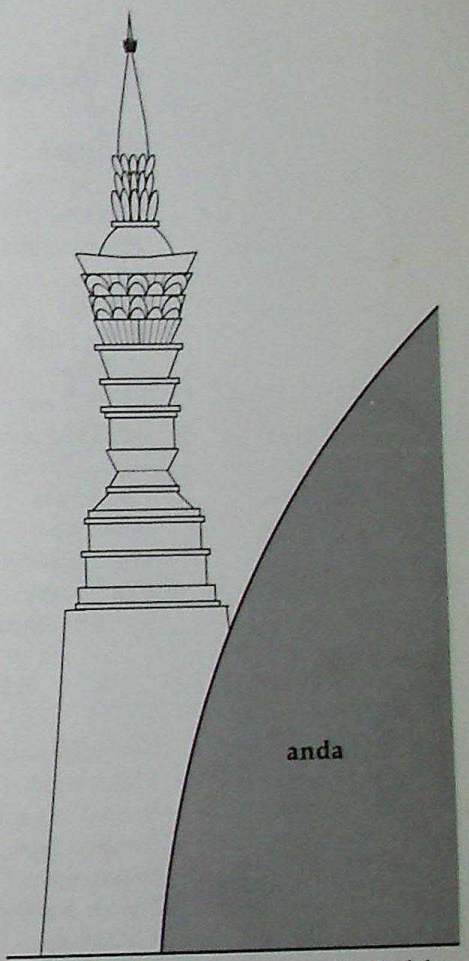


Figure 224: *That Luang:* section detail of the encrouchment of a *stupika* into the *anda*

As a palladium to the country and the people of Lao, the *That Luang* is certainly a worthy icon. However, the arrangement and/or number of subsidiary *stupas* (*stupika* or *palami*), their attachment to the *anda* and their unsightly plinths create, individually, problems. When taken together, the conundrum is multiplies considerably. It may be that from its construction by King Sai Setthathirat of Lan Xang , in 1566 down to the unsightly "restoration" of 1910, the vicissitudes of this country and Wieng Chan (Vientiane) were responsible for this aesthetic and iconic enigma.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Lao (Lan Xang) Monarchs

(Lan Xang)

Muang Sawa (Luang Phabang)

Fa Ngum	(1353-1373)
Samsenthai	(1373-1416)
Lan Kham Deng	(1416-1427)
Phommathat	(1428-1429)
Mun Sai	(1430)
Fa Khai	(1430-1433)
Kong Kham	(1433-1434)
Yukhon	(1434-1435)
Kham Keut	(1435-1438)
Sao Tiakaphat	(1438-1479)
Theng Kham	(1479-1486)
Lasenthai	(1486-1496)
Som Phu	(1496-1501)
Wisunalat	1501-1520)
Phothisarat	(1520-1548)
Sai Setthathirat	(1548-1571)

Wieng Chan (Vientiane)

Sensulinthara	**(1571-1575)**
Maha Upahat	**(1575-1580)**
Sensulinthara	**(1580-1581)**
Nakhon Noi	**(1582-1583)**
(*interregnum*)	**(1583-1591)**
Nokeo Kumman	**(1591-1596)**
Thammikrat	**(1596-1622)**
Upanyuvarat	**(1622-1623)**
Photisarat	**(1623-1627)**
Mon Keo	**(1627)**
Upanyuvarat	**(?)**
Ton Kham	**(?)**
Visai	**(?)**
Sulinya Vongsa	**(1637-1694)**

(Wieng Chan [Vientiane])

Sai Ong Hue	**(1707-1735)**
Ong Long	**(1735-1760)**
Ong Boun	**(1760-1778)**
(*interregnum*)	**(1778-1782)**

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

That Luang (Concluded)

Nan	(1782-1792)
In	(1792-1805)
Chao Anou (Anouvong)	(1805-1828)

(Champasak)

Soi Sisamut (nephew of Sulinya Vongsa)	(1713-1737)
Sainyakuman	(1737-1791)
Fai Na	(1791-1811)

(Luang Phabang)

Kisalat (grandson of Sulinya Vongsa)	(1707-1725)
Khamon Noi	(1726-1727)
Inta Som	(1727-1776)
Sotika Kuman	(1776-1781)
Suryavong	(1781-1787)
(*interregnum*)	(1787-1791)
Anulat	(1791-1817)
Manthatulat	(1817-1836)
Sukaseum	(1836-1851)
Tiantha	(1851-1872)
Oun Kham	(1872-1887)
(*interregnum*)	(1787-1794)
Sakkalin	(1894-1904)
Sisavang Vong	(1904-1959)
Sisavang Vatthana	(1959-1975)

135372

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

GURU ... LIBRARY

Access ...	[illegible]	17.2.04
Class on	[illegible]	5-6-04
Cat on	[illegible]	"
Tag etc.	[illegible]	"
Filing	[illegible]	"
E.A.R.	[illegible]	9-7-04
Any others	[illegible]	5-6-04
Checked		

Recommended By....S.T. एस. एन. सिंह

STOCK VERIFY 2020 G.K.V. Library

Entered in Database
[illegible] 17/04
Signature with Date

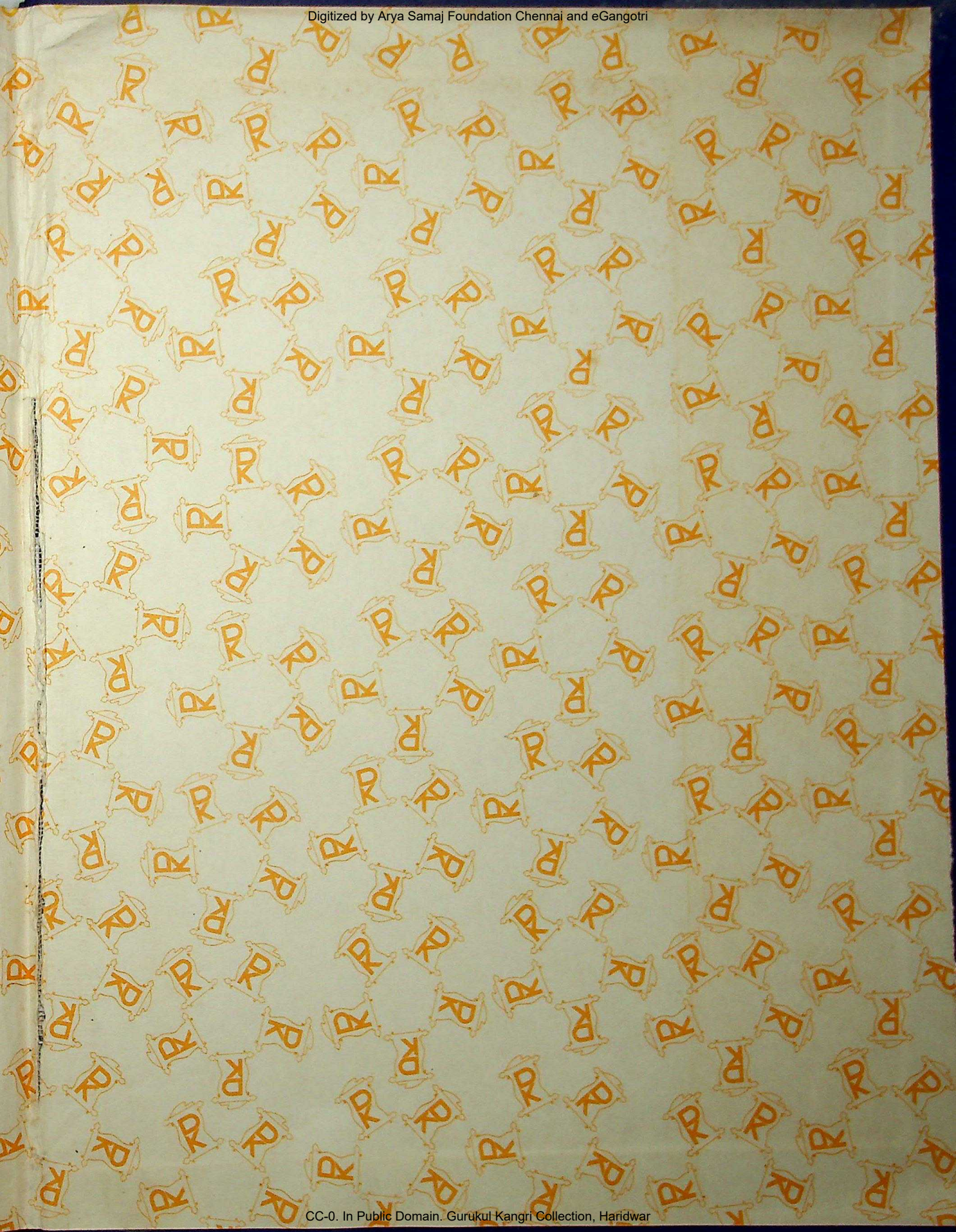
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

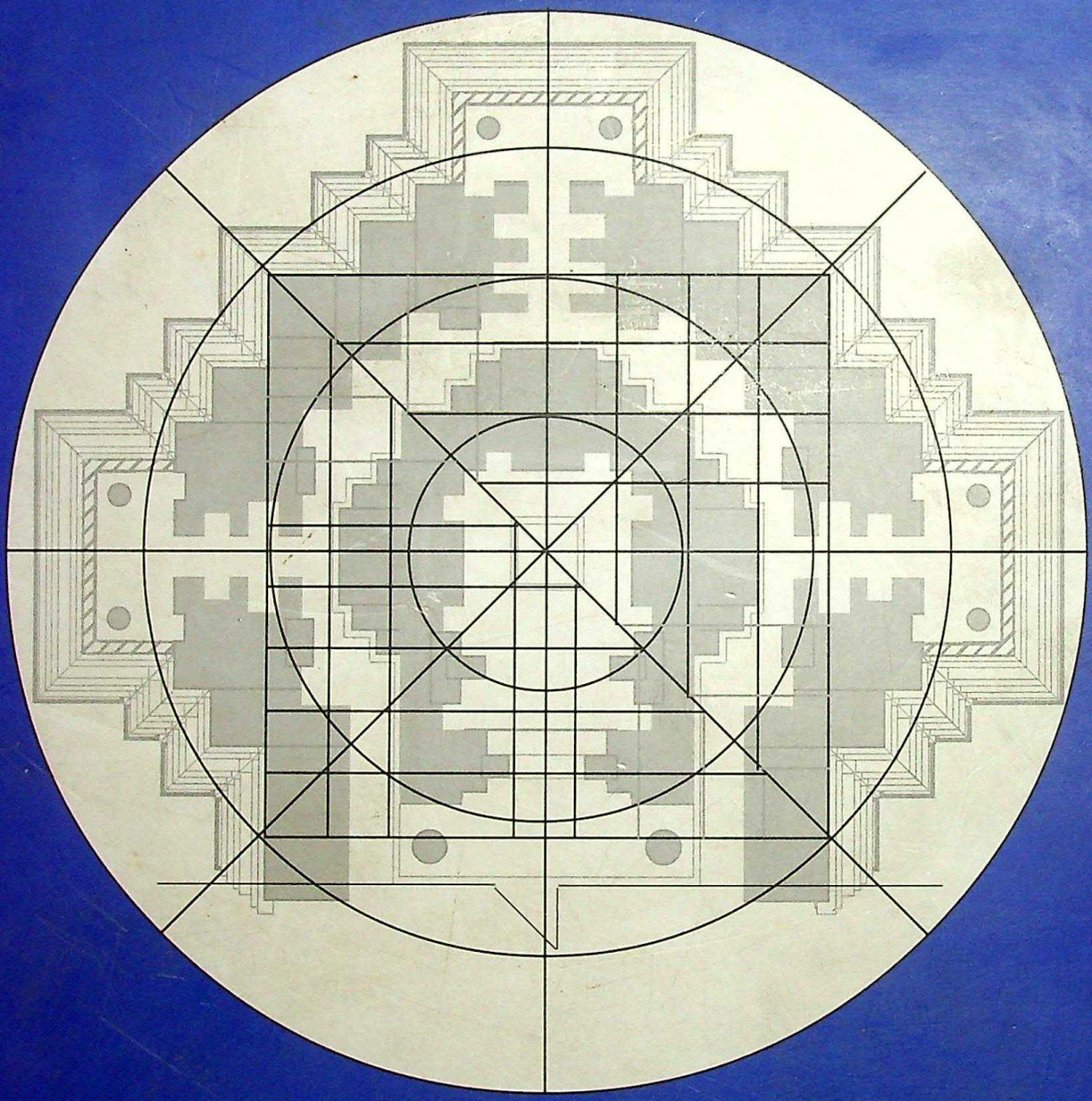
Digitized by Arya Samaj Foundation Chennai and eGangotri

Digitized by Arya Samaj Foundation Chennai and eGangotri



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



D.K. Printworld (P) Ltd.

'*Sri Kunj*', F-52 Bali Nagar, NEW DELHI - 110 015
Phs.: (011) 545 3975, 546 6019; Fax : (011) 546 5926
E-mail: dkprintworld@vsnl.net

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar